
**QUALITATIVE PM₁₀ AND PM_{2.5} ASSESSMENT
for the
Interstate 5 Widening Project from
SR-73 to El Toro Road**

**EA: 0K0200
12-ORA-5 KP 20.0/30.4 (PM 12.4/18.9)**

**Cities of Lake Forest, Laguna Hills, Laguna Woods, Mission Viejo, and
Laguna Niguel**

County of Orange, State of California

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October 19, 2012

JN 10-108022

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1.0 INTRODUCTION

This project-level particulate matter impact assessment is prepared in response to the United States Environmental Protection Agency's (EPA) requirement for particulate matter (particulate matter of diameter less than or equal to 10 microns [PM_{10}] and particulate matter of diameter less than or equal to 2.5 microns [$PM_{2.5}$]) hot-spot analysis, as specified in its March 10, 2006 *Final Transportation Conformity Rule* (71 FR 12468). The analysis was conducted following the procedures and methodology provided in the document *Transportation Conformity Guidance for Qualitative Hot-Spot Analyses in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas* (Guidance), developed by the EPA and the Federal Highway Administration (FHWA).¹

The proposed project is included in the Southern California Association of Governments (SCAG) 2012-2035 *Regional Transportation Plan/Sustainable Communities Strategy* (RTP) (RTP ID 2M0730) and the SCAG 2011 Federal Transportation Improvement Program (FTIP) (FTIP ID ORA111801). The 2011 FTIP was adopted by SCAG on September 2, 2010, and FHWA approved the RTP on December 14, 2010. The financially constrained 2012 RTP was found to conform by FHWA and the Federal Transit Administration (FTA) on June 5, 2012. Refer to Appendix A (RTP and FTIP Documentation) for documentation from the RTP and the FTIP.

¹ The EPA released updated guidance documents for completing quantitative particulate matter ($PM_{2.5}$ and PM_{10}) hot-spot analyses on December 20, 2010 (75 FR 79370). There is a 2-year grace period before use of the new quantitative particulate matter hot-spot guidance is required for project-level particulate matter conformity determinations. Until December 20, 2012, project-level conformity determinations made using the 2006 qualitative guidance remain appropriate.

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2.0 PROJECT DESCRIPTION

2.1 PROJECT LOCATION

The proposed project is located within the cities of Laguna Hills, Laguna Niguel, Laguna Woods, Lake Forest, and Mission Viejo within the County of Orange, State of California; refer to Figure 1 (Project Location and Index Map). The proposed project's boundaries are from Post Mile (PM) 12.4 to PM 18.9. The total distance of the proposed project is approximately 6.5 miles.

2.2 PROJECT CHARACTERISTICS

The Orange County Transportation Authority (OCTA), in cooperation with the California Department of Transportation (Caltrans), the City of Lake Forest, the City of Laguna Hills, the City of Laguna Niguel, and the City of Mission Viejo, is proposing to widen Interstate 5 (I-5) between State Route 73 (SR-73) and El Toro Road. The project objectives are to maximize overall performance within the project limits; reduce congestion on I-5 within the project limits; provide intermittent auxiliary lanes, where needed, to relieve congestion at diverge and merge locations; minimize right-of-way acquisition; and relieve congestion within interchange areas, on- and off-ramps, and local intersections. The project limits on I-5 extend from 0.5 mile (mi) south of the SR-73 interchange (PM 12.4) to 0.2 mi north of the El Toro Road Undercrossing (UC) (PM 18.9). The proposed project will add general purpose lanes in each direction on I-5 between Avery Parkway and Alicia Parkway, extend the 2nd High Occupancy Vehicle (HOV) lane from Alicia Parkway to El Toro Road, reestablish existing auxiliary lanes and construct new auxiliary lanes, and improve several existing on- and off-ramps.

Three alternatives, including the No Build Alternative, will be analyzed as a part of the Draft Initial Study/Environmental Assessment (IS/EA). The project alternatives are described below.

Alternative 1 – No Build

The no build alternative proposes no improvements to I-5, maintaining the existing four general purpose lanes and one HOV lane throughout the project limits in the northbound (NB) and southbound (SB) directions. All freeway facilities would remain as is, with the exception of proposed projects that are under development or currently in construction.

Alternative 2

Alternative 2 proposes to remove the existing I-5 paved shoulders and construct new traveled way and new shoulder pavement to the outside of the NB and SB lanes to accommodate one additional general purpose lane from Avery Parkway to Alicia Parkway; refer to Figure 2 (Alternative 2). Full standard widths are proposed, including a 10-foot inside shoulder, 12-foot HOV lane, five 12-foot general purpose lanes, and a 10-foot outside shoulder throughout the majority of the project limits. No buffer is proposed between the HOV lane and general purpose lanes, which will accommodate continuous access throughout the project limits.

This alternative also proposes the extension of the second HOV lane from the Alicia Parkway interchange area to where it currently terminates at the El Toro Road UC. In this section, full standard widths are proposed as well. The centerline of I-5 is proposed to be shifted to the west in this area to accommodate the widening, which requires minor realignment of Avenida de la Carlota.

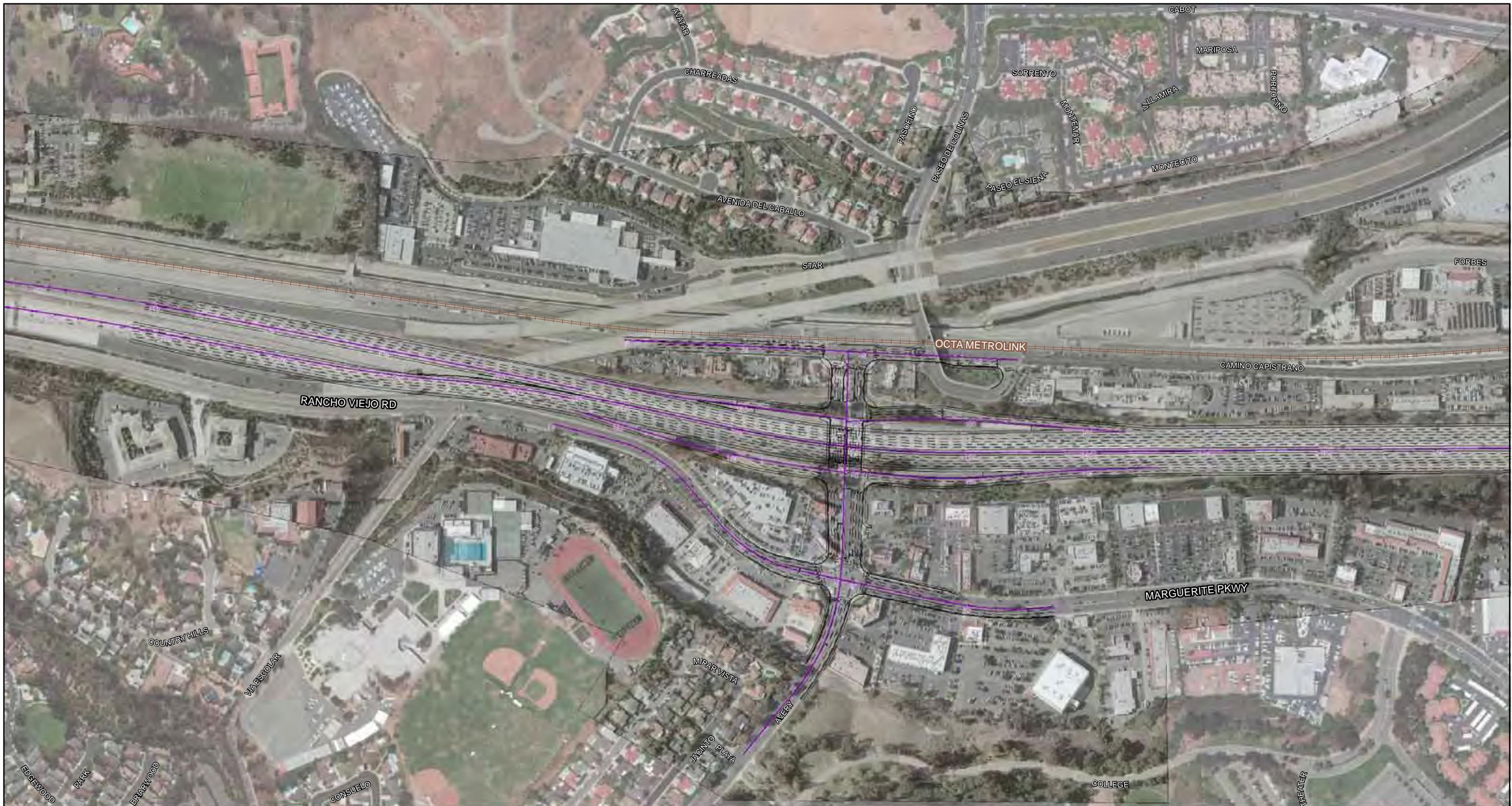
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FIGURE 1

I-5 Widening Project: SR-73 to El Toro Road
Project Location and Index Map



LEGEND
Alternative 2
— Proposed Geometrics
— Station Line



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SOURCE: Bing Maps (c.2008) and RBF (1/2012); TranSystems (3/13/2012, 6/26/2012, 7/16/2012)

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I-5 Widening Project: SR-73 to El Toro Road
Alternative 2

FIGURE 2
Sheet 1 of 6



LEGEND

Alternative 2

- Proposed Geometrics
- Station Line



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SOURCE: Bing Maps (c.2008) and RBF (1/2012); TranSystems (3/13/2012, 6/26/2012, 7/16/2012)

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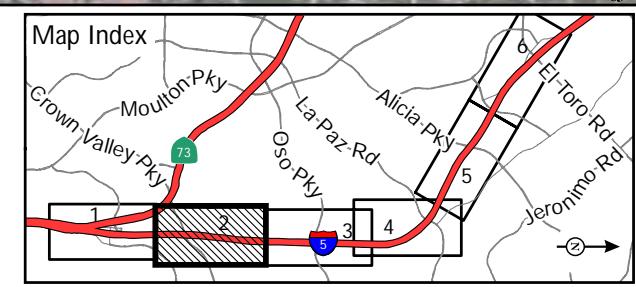


FIGURE 2
Sheet 2 of 6

I-5 Widening Project: SR-73 to El Toro Road
Alternative 2

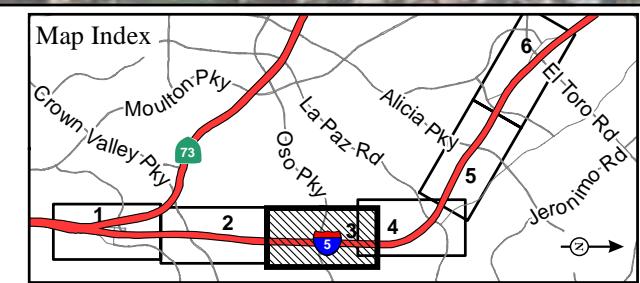


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Alternative 2
— Proposed Geometrics
— Station Line

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I-5 Widening Project: SR-73 to El Toro Road
Alternative 2

FIGURE 2
Sheet 3 of 6



LEGEND
Alternative 2
 — Proposed Geometrics
 — Station Line



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SOURCE: Bing Maps (c.2008) and RBF (1/2012); TranSystems (3/13/2012, 6/26/2012, 7/16/2012)

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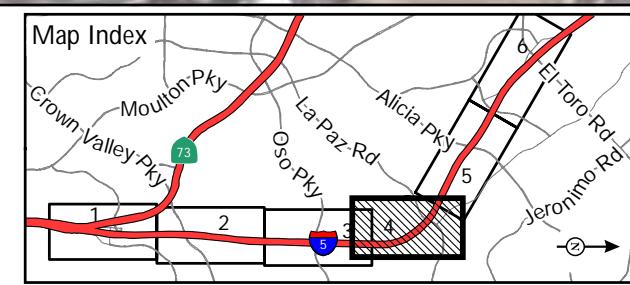


FIGURE 2
Sheet 4 of 6

I-5 Widening Project: SR-73 to El Toro Road
Alternative 2



LEGEND
Alternative 2
— Proposed Geometrics
— Station Line

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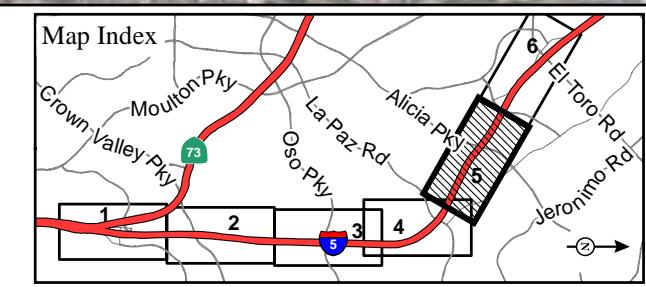


FIGURE 2
Sheet 5 of 6
I-5 Widening Project: SR-73 to El Toro Road
Alternative 2



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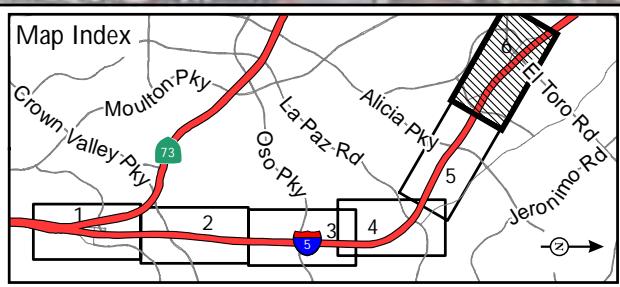
Alternative 2

- Proposed Geometrics
- Station Line

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I-5 Widening Project: SR-73 to El Toro Road
Alternative 2

FIGURE 2
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Auxiliary Lanes

Existing auxiliary lanes through the project limits are proposed to be reestablished and new auxiliary lanes will be constructed at the following locations:

- To Avery Parkway NB off-ramp.
- Between Oso Parkway NB on-ramp and La Paz Road NB off-ramp.
- Between La Paz Road NB on-ramp and Alicia Parkway NB off-ramp.
- Between Oso Parkway SB on-ramp and Crown Valley Parkway SB off-ramp (existing auxiliary lane is not continuous), as well as add a second auxiliary lane (for 1,500 feet) to Crown Valley Parkway SB off-ramp.
- Between La Paz Road SB on-ramp and Oso Parkway SB off-ramp (existing auxiliary lane is not continuous).
- Between El Toro Road SB on-ramp and Alicia Parkway SB off-ramp (existing auxiliary lane is not continuous; 2nd auxiliary will also be reestablished).

Avery Parkway Interchange Improvements

In addition to providing an additional general purpose lane to the I-5/Avery Parkway interchange, the interchange configuration will also be improved. There are two options under consideration for improvement of the interchange, both of which require replacement of the Avery Parkway UC structure.

Design Option A – Modified Tight Diamond Interchange

Under this option, the on- and off-ramps at Avery Parkway will be realigned and the NB off-ramp will be widened to three lanes at the intersection with Avery Parkway. Similarly, the NB on-ramp would be widened to three lanes and the SB off-ramp would be widened to four lanes at the intersection. The SB off-ramp would be improved to two lanes at the diverge from I-5, with one mainline auxiliary lane for the second lane. The overall configuration of the interchange will be similar to the existing configuration. Additionally, Avery Parkway will be improved under the structure to provide side-by-side dual left-turn lanes to both the NB and SB on-ramps and three through lanes in the EB and WB directions. This alternative will incorporate an interconnect line to optimize signal timing and operations for the closely spaced intersections at the interchange. Standard outside shoulders (which would accommodate bicycles) will be provided throughout the majority of the interchange in the EB and WB directions. Sidewalk will be provided through the interchange in the EB and WB directions.

Design Option B – SB Hook On- and Off-Ramps

Under this option, an SB hook off-ramp and SB hook on-ramp will be added to allow for the removal of the existing left-turn lane for traffic accessing SB I-5. The hook ramps would provide access to SB I-5 from Camino Capistrano, just south of the Camino Capistrano/Avery Parkway intersection. The SB off-ramp would be improved to two lanes at the diverge from I-5, as described under Design Option A. (The NB ramps would maintain the same improved configuration described under Design Option A.) Avery Parkway will be improved under the structure to provide dual left-turn lanes to the NB on-ramp and three through lanes in the EB and WB directions. Standard outside shoulders (which would accommodate bicycles) will be provided throughout the majority of the interchange in the EB and WB directions. Sidewalk will be provided through the interchange in the EB and WB directions.

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La Paz Road Interchange Improvements

In addition to providing an additional general purpose lane within the I-5/La Paz Road interchange, capacity will also be added to La Paz Road, requiring replacement of the La Paz Road UC structure. The overall configuration of the interchange will remain the same, but La Paz Road will be improved under the structure to provide two through lanes in each direction, as well as right-turn lanes to the NB and SB loop on-ramps. Bicycle lanes and standard outside shoulders will be provided throughout the majority of the interchange in the EB and WB directions. Sidewalk will be provided through the interchange in the EB and WB directions.

Ramps

All ramps within the project limits will be modified in order to accommodate the additional general purpose lane, which include improvements ranging from restriping to complete reconstruction. Specifically, ramp modifications under this alternative include:

Avery Parkway

- Modify ramps as described in Design Options A and B above.

Crown Valley Parkway

- Realign, reconstruct, and widen NB off-ramp.
- Realign and reconstruct NB loop on-ramp and directional on-ramp.
- Realign, reconstruct, and widen SB off-ramp.
- Realign and reconstruct SB on-ramp.

Oso Parkway

- Realign and reconstruct NB off-ramp, loop on-ramp, and directional on-ramp.
- Realign and reconstruct SB off-ramp, loop on-ramp, and directional on-ramp.

La Paz Road

- Realign, reconstruct, and widen NB off-ramp, NB loop on-ramp, and directional on-ramp.
- Realign, reconstruct, and widen SB off-ramp, SB loop on-ramp, and directional on-ramp.

Alicia Parkway

- Realign, reconstruct, and widen NB off-ramp.
- Realign and reconstruct NB loop on-ramp and directional on-ramp.
- Realign, reconstruct, and widen SB off-ramp.
- Realign and reconstruct SB loop on-ramp and SB directional on-ramp.

El Toro Road

- Realign, reconstruct, and widen NB off-ramp.
- Realign and reconstruct NB loop on-ramp and NB directional on-ramp.
- Realign and restripe SB off-ramp.
- Realign and reconstruct SB loop on-ramp and directional on-ramp.

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Structures

Avery Parkway UC (Bridge No. 55-0232)

This alternative proposes to replace the Avery Parkway UC structure to accommodate the wider Avery Parkway cross-section under the structure and to improve the existing non-standard vertical clearance of 14'8" with the minimum required 15'. In order to achieve minimum vertical clearance for this structure, a two-span structure is proposed to minimize the structure depth and the Avery Parkway profile will be lowered through the interchange area. Additionally, to ensure that all existing mainline lanes are open through construction, the I-5 centerline will be realigned easterly approximately 40 feet through the interchange.

Crown Valley Parkway (Bridge No. 55-0444)

- Tie-back walls for NB and SB I-5.

Oso Creek (Bridge No. 55-0233)

- Structure widening for NB and SB I-5.

Oso Parkway (Bridge No. 55-0509)

- Tie-back walls for NB and SB I-5

El Toro OH (Bridge No. 55-0221)

- Structure widening for NB I-5.
- Structure replacement for NB off-ramp to La Paz Road.

La Paz Road UC (Bridge No. 55-0234)

This alternative proposes to replace the La Paz Road UC structure to accommodate the wider La Paz Road cross-section under the structure and to improve the existing non-standard vertical clearance of 14 feet, 10 inches with the minimum required 15 feet. This includes replacement of the structure for the NB loop-on ramp from La Paz Road. In order to achieve minimum vertical clearance for this structure, a two-span structure is proposed to minimize the structure depth. No profile adjustment is proposed for either I-5 or La Paz Road. Additionally, to ensure that all existing mainline lanes are open through construction, the I-5 centerline will be realigned easterly approximately 77 feet to 85 feet through the interchange.

Alicia Parkway OC (Bridge No. 55-0591)

- Tie-back wall for NB I-5.

Aliso Creek UC (Bridge No. 55-0014)

- Structure widening for SB I-5.

Los Alisos Boulevard OC (Bridge No. 55-0631)

This alternative proposes to replace the Los Alisos Boulevard OC structure to accommodate the wider I-5 cross-section under the structure. No profile adjustment is proposed. Additionally, the new structure will be constructed to accommodate three future lanes in each direction on Los Alisos Boulevard, to be consistent with the ultimate lane configuration in the Master Plan of Arterial Highways (MPAH).

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El Toro Road UC (Bridge No. 55-0235)

- Structure widening for NB and SB I-5.

Alternative 3

Alternative 3 is very similar in nature to Alternative 2, except that it proposes one additional general purpose lane from Avery Parkway to Alicia Parkway and a second additional general purpose lane from Crown Valley Parkway to Alicia Parkway; refer to Figure 3 (Alternative 3).

Other differences from Alternative 2 are noted below.

Auxiliary Lanes

New auxiliary lanes will be constructed in the same locations as noted in Alternative 2.

Avery Parkway Interchange Improvements

Design options for the Avery Parkway interchange reconfiguration will be the same as those noted under Alternative 2.

La Paz Road Interchange Improvements

The La Paz Road interchange improvements will be the same as noted under Alternative 2.

Ramps

Ramp modifications will be the same as those noted under Alternative 2.

Structures

Modifications and improvements to structure are the same as those noted under Alternative 2, although they will be widened further to accommodate the additional general purpose lane. Additional modifications are proposed for the following:

El Toro OH (Bridge No. 55-0221)

- Structure widening for SB I-5.

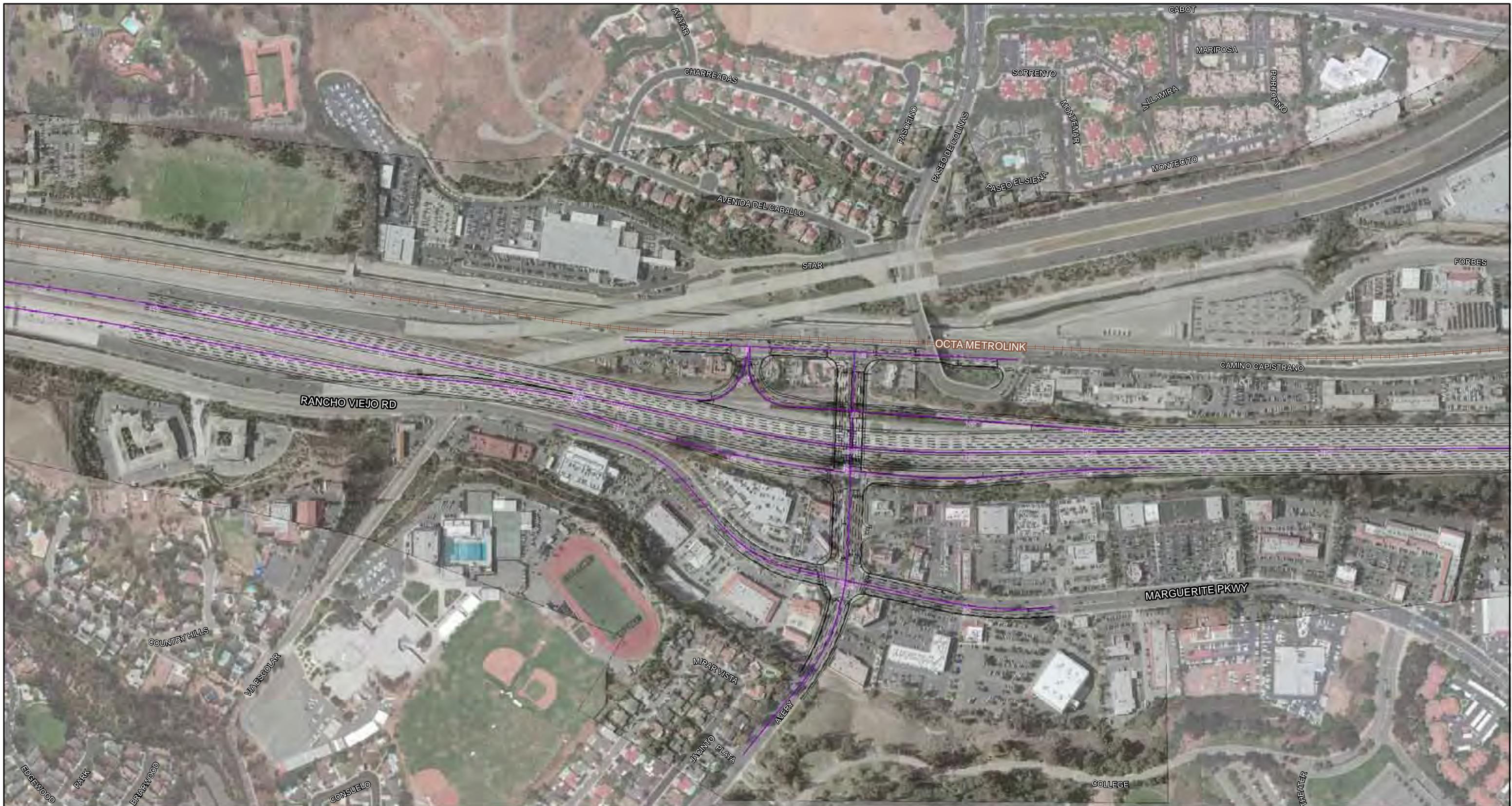
2.3 PURPOSE AND NEED

Purpose of the Project

The purpose of the I-5 Widening Project (proposed project) is to improve both existing and forecast mainline congestion on I-5 from SR-73 to El Toro Road and improve interchange operations on an interim basis. The following goals/objectives have also been identified for consideration within the project limits:

- Improve vehicle occupancy within the Study Area.
- Provide continuity of the HOV network within the proposed project limits.
- Improve ingress/egress from freeway ramps.
- Maximize use of the existing right-of-way to provide appropriate facility improvements.

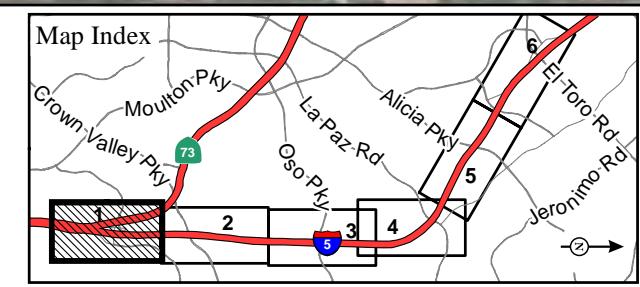
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Alternative 3
— Proposed Geometrics
— Station Line

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I-5 Widening Project: SR-73 to El Toro Road
Alternative 3

FIGURE 3
Sheet 1 of 6



LEGEND

Alternative 3

- Proposed Geometrics
- Station Line



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SOURCE: Bing Maps (c.2008) and RBF (1/2012); TranSystems (3/13/2012, 6/26/2012, 7/16/2012)

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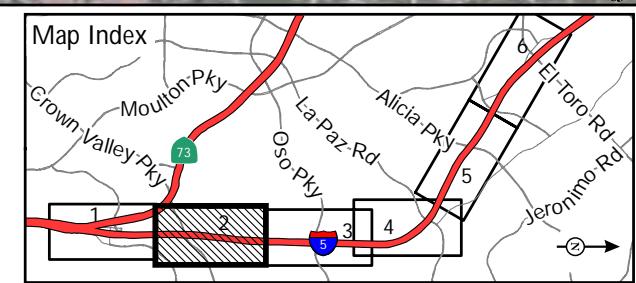


FIGURE 3
Sheet 2 of 6

I-5 Widening Project: SR-73 to El Toro Road
Alternative 3



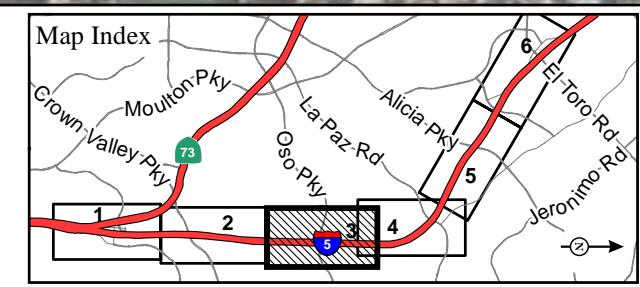
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Alternative 3
— Proposed Geometrics
— Station Line



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I-5 Widening Project: SR-73 to El Toro Road
Alternative 3

FIGURE 3
Sheet 3 of 6



LEGEND
Alternative 3
— Proposed Geometrics
— Station Line



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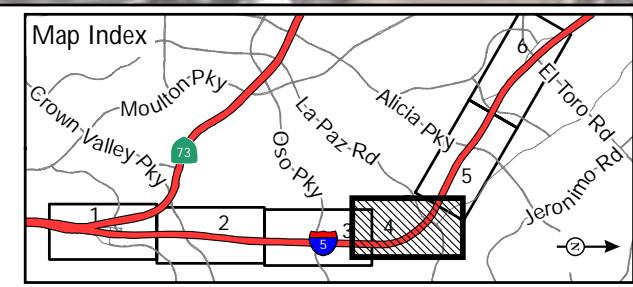


FIGURE 3
Sheet 4 of 6

I-5 Widening Project: SR-73 to El Toro Road
Alternative 3



LEGEND
Alternative 3
 — Proposed Geometrics
 — Station Line

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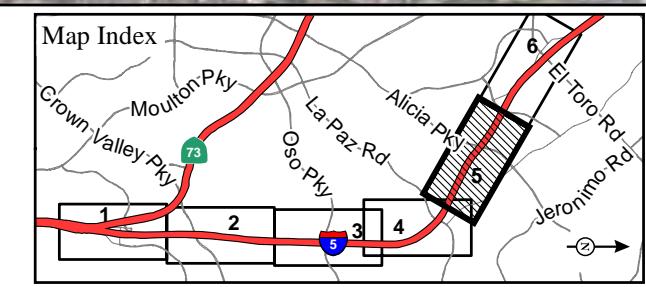


FIGURE 3
Sheet 5 of 6
I-5 Widening Project: SR-73 to El Toro Road
Alternative 3



LEGEND

Alternative 3

- Proposed Geometrics
- Station Line

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I-5 Widening Project: SR-73 to El Toro Road
Alternative 3

FIGURE 3
Sheet 6 of 6

Need for the Project

The I-5 corridor is the only major freeway connecting Los Angeles and Orange counties with San Diego County. The 2011 traffic volume for this corridor was approximately 358,000 vehicles per day and is expected to increase by approximately 25percent by 2045 bringing freeway volumes up to 448,000 vehicles per day². Currently, this stretch of the I-5 corridor has insufficient capacity on the freeway mainline, interchange areas, on- and off-ramps, and local intersections to handle existing and projected 2045 travel demand in the Study Area. This condition also affects the traffic operation at the local interchanges with this segment of I-5. As a result, this corridor is operating with a condition of traffic demand exceeding capacity due to the following conditions:

- A high level of traffic during the weekdays as well as the weekends/holidays due to lack of capacity.
- Congestion at the freeway on- and off- ramps/intersections due to high traffic demands at the ramps.
- Congestion due to weaving and merging between the on- and off- ramps at several interchanges as a result of overall traffic volume.

² I-5 Widening Project from SR-73 to El Toro Road PA/ED Traffic Study, June 2012. (Table 2-10)

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3.0 REGULATORY FRAMEWORK

In order to implement the hot-spot analysis requirements of the March 10, 2006 Final Rule, the *Transportation Conformity Guidance for Qualitative Hot-Spot Analyses in PM_{2.5} and PM₁₀ Nonattainment and Maintenance Areas* (March 10, 2006 Final Rule) was developed by the EPA and the FHWA. “Conformity” in an air quality context is the Federal Clean Air Act (FCAA) requirement that all federal actions conform to the letter and spirit of the State Implementation Plan (SIP). The SIP is the State's plan for attaining and maintaining attainment of the National Ambient Air Quality Standards (NAAQS). Conformity ensures that transportation plans, programs, and projects do not: 1) produce new air quality violations; 2) worsen existing violations; or 3) delay timely attainment of NAAQS.

Conformity requirements are set forth in Section 176(c) of the FCAA, which is codified in 42 USC 7506(c). Specific criteria and procedures for carrying out the conformity process are in the Code of Federal Regulations (CFR) at 40 CFR 93 Subparts A (Highways and Transit) and B (General Federal Actions). Essentially, all projects that are funded or approved by FHWA or FTA must follow the procedures and criteria specified in Subpart A. Nonattainment areas are subject to this “Transportation Conformity Rule,” which requires local transportation and air quality officials to coordinate planning to ensure that transportation projects, such as road construction, do not affect an area's ability to reach its clean air quality goals.

This Transportation Conformity Rule specifies that projects that are not fully exempt from conformity requirements must have a project-level conformity analysis. The conformity analysis must address whether or not the project comes from a conforming regional transportation plan and transportation improvement program, or has an equivalent regional analysis in nonattainment or maintenance areas that do not have a Metropolitan Planning Organization (MPO), and includes hot-spot analysis and related commitments where applicable. A hot-spot analysis is required in nonattainment and maintenance areas for CO, PM₁₀, and PM_{2.5}. Transportation conformity requirements become effective one year after an area is designated as nonattainment. The March 10, 2006 Final Rule requires a qualitative PM₁₀ and PM_{2.5} hot-spot analysis to be completed for a project of air quality concern (POAQC). The proposed project is within a nonattainment area for federal PM₁₀ and PM_{2.5} standards. Therefore, per 40 CFR Part 93, analyses are required for conformity purposes. The EPA does not require hot-spot analyses (either qualitative or quantitative) for projects that are not listed in Section 93.123(b)(1) as a POAQC.

A qualitative hot-spot analysis is defined in 40 CFR 93.101 as an estimation of likely future localized pollutant concentrations resulting from a new transportation project and a comparison of those concentrations to the relevant air quality standard. A hot-spot analysis assesses the air quality impacts on a scale smaller than an entire nonattainment or maintenance area, including, for example, congested roadway intersections and highways or transit terminals. Such an analysis is a means of demonstrating that a transportation project meets FCAA conformity requirements to support state and local air quality goals with respect to potential localized air quality impacts.

Ambient Air Quality Standards

The proposed project is located within the South Coast Air Basin (SCAB), which is designated as a nonattainment area for federal PM₁₀ and PM_{2.5} standards. The PM_{2.5} 24-hour standard of 65 µg/m³ (established in 1997) was revised to 35 µg/m³ in 2006. The annual federal standard for PM_{2.5} is 15 µg/m³. The 24-hour standard for PM₁₀ is 150 µg/m³. There is no annual federal standard for PM₁₀.

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The 24-hour PM_{2.5} standard is based on 3-year average of the 98th percentile of 24-hour recorded concentrations; the annual standard is based on 3-year average of the annual arithmetic mean PM_{2.5} recorded at the monitoring station. A PM_{2.5} hot-spot analysis must consider both standards, unless it is determined for a given area that meeting the controlling standard would ensure that FCAA requirements are met for both standards. The interagency consultation process is used to discuss how the qualitative PM_{2.5} hot-spot analysis meets statutory and regulatory requirements for both standards, depending on the factors that are evaluated for a given project.

PM₁₀ nonattainment and maintenance areas are required to attain and maintain the 24-hour standard of 150 µg/m³. The 24-hour PM₁₀ standard is attained when the average number of exceedances in the previous three calendar years is less than or equal to one. An exceedance occurs when a 24-hour average concentration of greater than 150 µg/m³ is measured at a monitoring site. The annual PM₁₀ standard of 50 µg/m³ is no longer used for determining the federal attainment status. The interagency consultation process is used to discuss how the qualitative PM₁₀ hot-spot analysis meets statutory and regulatory requirements for PM₁₀ standard, depending on the factors that are evaluated for a given project.

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4.0 PM₁₀ AND PM_{2.5} QUALITATIVE ANALYSIS

Projects of Air Quality Concern

The March 10, 2006 Final Rule requires a hot spot analysis to be performed for a POAQC or any other project identified by the PM₁₀ and PM_{2.5} SIP as a localized air quality concern. EPA's final rule, 40 CFR 93.123(b)(1) defines a POAQC as:

- (i) New or expanded highway projects that have a significant number of or significant increase in diesel vehicles;
- (ii) Projects affecting intersections that are at Level-of-Service D, E, or F with a significant number of diesel vehicles, or those that will change to Level-of-Service D, E, or F because of increased traffic volumes from a significant number of diesel vehicles related to the project;
- (iii) New bus and rail terminals and transfer points that have a significant number of diesel vehicles congregating at a single location;
- (iv) Expanded bus and rail terminals and transfer points that significantly increase the number of diesel vehicles congregating at a single location; and
- (v) Projects in or affecting locations, areas, or categories of sites which are identified in the PM_{2.5} or PM₁₀ applicable implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violation.

For the assessment of PM₁₀ and PM_{2.5} hotspots, the final rule is that a hotspot analysis is to be performed only for POAQCs. POAQCs are certain highway and transit projects that involve significant levels of diesel traffic or any other project identified in the PM_{2.5} or PM₁₀ SIP as a localized air quality concern. The following list provides examples of POAQCs:

- A project on a new highway or expressway that serves a significant volume of diesel truck traffic, such as facilities with greater than 125,000 annual average daily traffic (AADT) where 8 percent or more of such AADT is diesel truck traffic.
- New exit ramps and other highway facility improvements to connect a highway or expressway to a major freight, bus, or intermodal terminal.
- Expansion of an existing highway or other facility that affects a congested intersection (operated at LOS D, E, or F) that has a significant increase in the number of diesel trucks.
- Similar highway projects that involve a significant increase in the number of diesel transit busses and/or diesel trucks.

The following are examples of projects that are not an air quality concern under 40 CFR 93.123(b)(1)(i) and (ii):

- Any new or expanded highway project that primarily services gasoline vehicle traffic (i.e., does not involve a significant number or increase in the number of diesel vehicles), including such projects involving congested intersections operating at Level-of-Service D, E, or F;
- An intersection channelization project or interchange configuration project that involves either turn lanes or slots, or lanes or movements that are physically separated. These kinds of projects improve freeway operations by smoothing traffic flow and vehicle speeds by improving weave

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and merge operations, which would not be expected to create or worsen PM_{2.5} or PM₁₀ violations; and

- Intersection channelization projects, traffic circles or roundabouts, intersection signalization projects at individual intersections, and interchange reconfiguration projects that are designed to improve traffic flow and vehicle speeds, and do not involve any increases in idling. Thus, they would be expected to have a neutral or positive influence on PM_{2.5} or PM₁₀ emissions.

Examples of projects that are not an air quality concern under 40 CFR 93.123(b)(1)(iii) and (iv) include:

- A new or expanded bus terminal that is serviced by non-diesel vehicles (e.g., compressed natural gas) or hybrid-electric vehicles; and,
- A 50 percent increase in daily arrivals at a small terminal (e.g., a facility with 10 buses in the peak hour).

For projects identified as not being a POAQC, qualitative PM₁₀ and PM_{2.5} hotspot analyses are not required. For these types of projects, state and local project sponsors should briefly document in their project-level conformity determinations that FCAA and 40 CFR 93.116 requirements were met without a hotspot analysis, since such projects have been found to not be of air quality concern under 40 CFR 93.123(b)(1). As the project area is classified as a nonattainment area for the federal PM₁₀ and PM_{2.5} standard, a determination must be made as to whether it would result in a PM₁₀ or PM_{2.5} hotspot.

Of the five POAQC types identified above, the project most likely falls into the first category of a “new or expanded highway projects that have a significant number of or significant increase in diesel vehicles.” Existing average daily traffic (ADT) volumes for each freeway segment within the project study area are depicted in Table 1 (Existing Traffic Volumes). The study area includes the section of freeway proposed for widening, along with the freeway segments preceding and following the project area. Also included in the study area are the arterial roadways and intersections in the vicinity of the freeway project. As shown in Table 1, existing traffic volumes range from 182,500 to 364,600 ADT, which includes truck volumes that range from 6,388 to 12,761 ADT. As a result, traffic volumes along I-5 exceed the EPA and FHWA’s POAQC guideline of 125,000 ADT. Therefore, this Qualitative PM₁₀ and PM_{2.5} Assessment has been prepared for consideration by the Transportation Conformity Working Group (TCWG) in lieu of a PM Hot Spot Interagency Review Form. This project has not been previously presented for consideration by the TCWG.

Comment [MSOffice1]: The description of the study area is included instead of within the project description. The project description was not modified, as Caltrans District 12 requires consistency between all technical studies.

The final Transportation Conformity Rule requires a hot spot analysis to be performed for a POAQC, while projects identified as not being a POAQC are not required to undergo a hot spot analysis. As indicated in the analysis below, the data depicted in Table 5 indicates that the project is a POAQC based on roadway traffic and truck ADT. As such, and a qualitative PM₁₀ and PM_{2.5} hot spot analysis consistent with FHWA and EPA’s 2006 qualitative hot spot analysis guidance is required.

A hot-spot analysis is defined in Section 93.101 of 40 CFR as an estimation of likely future localized pollutant concentrations and a comparison of those concentrations to the relevant air quality standards. A hot-spot analysis assesses the air quality impacts on a project-level, which is a scale smaller than an entire nonattainment or maintenance area, such as for congested roadway intersections and highways or transit terminals. Such an analysis is a means of demonstrating that a transportation project meets the FCAA conformity requirements to support state and local air quality goals with respect to achieving the attainment status in a timely manner. When a hot-spot analysis is required, it is included within the project-level conformity determination that is made by FHWA or the FTA.

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Table 1
Existing Traffic Volumes

Roadway Segment	Existing 2011	
	ADT	Truck ADT
I-5 Mainline		
Ortega Highway and Junipero Serra Road	272,000	9,520
Junipero Serra Road and SR-73	279,000	9,765
SR-73 and Avery Parkway	234,000	8,190
Avery and Crown Valley	244,100	8,544
Crown Valley Parkway and Oso Parkway	282,700	9,895
Oso Parkway and La Paz Road	298,100	10,434
La Paz Road and Alicia Parkway	323,200	11,312
Alicia Parkway and El Toro Road	358,000	12,530
El Toro Road and Lake Forest Drive	364,600	12,761
Lake Forest Drive and I-405	292,400	10,234
I-405 and Alton Parkway	182,500	6,388
Alton Parkway and SR-133	239,600	8,386

Source: Stantec, I-5 Widening Project from SR-73 to El Toro Road PA/ED (EA 0K0200 EFIS 1200000318) Traffic Report, June 2012.

4.1 METHODS AND TYPES OF EMISSIONS

The EPA and FHWA guidance for qualitative hot-spot analyses establishes the following two methods for completing a PM₁₀ and PM_{2.5} hot-spot analysis:

1. Comparison to another location with similar characteristics (pollutant trend within the air basin).
2. Air quality studies for the proposed project location (ambient particulate matter trend analysis in the project area).

This analysis uses a combined approach to demonstrate that the proposed project would not result in a new or worsened PM₁₀ or PM_{2.5} violation. Method 1 was used to establish that the proposed project area would meet the NAAQS. Method 2 was used to demonstrate that implementation of the proposed project would not delay attainment of the NAAQS.

The analysis was based on directly emitted PM₁₀ and PM_{2.5} emissions, including tailpipe, brake wear, and tire wear. Re-entrained road dust is also included in the qualitative analysis, as PM₁₀ re-entrained dust must be considered per conformity requirements and PM_{2.5} re-entrained road dust must be considered because the California Air Resources Board (CARB) has determined that re-entrained road dust is a significant contributor to ambient PM_{2.5} concentrations in the region.

Secondary particles formed through PM₁₀ and PM_{2.5} precursor emissions from transportation project take several hours to form in the atmosphere, giving emissions time to disperse beyond the immediate project area of concern for localized analyses; therefore, they were not considered in this hot-spot analysis. Secondary emissions of PM₁₀ and PM_{2.5} are considered as part of the regional emission analysis prepared for the conforming RTP and FTIP.

Project construction is anticipated to begin in 2018 and end by the 2022. As such, construction duration would be less than five years. In addition, the project must comply with South Coast Air Quality Management District (SCAQMD) construction-related fugitive dust control measures (Rule 403), which

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would ensure that fugitive dust from construction activities are minimized. Consequently, construction-related PM₁₀ and PM_{2.5} emissions were not included in the hot spot analysis per 40 CFR 93123(c)(5).

4.2 PM₁₀ AND PM_{2.5} TRENDS

Climate and Meteorology

The proposed project is located within the SCAB. The SCAB is characterized as having a “Mediterranean” climate (a semi-arid environment with mild winters, warm summers, and moderate rainfall). The SCAB is a 6,600-square mile area bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The SCAB includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties, in addition to the San Gorgonio Pass area of Riverside County. Its terrain and geographical location determine the distinctive climate of the SCAB, as it is a coastal plain with connecting broad valleys and low hills.

The general region lies in the semi-permanent, high-pressure zone of the eastern Pacific. As a result, the climate is mild and tempered by cool sea breezes. The climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds. The extent and severity of the air pollution problem in the SCAB is a function of the area’s natural physical characteristics (weather and topography), as well as man-made influences (development patterns and lifestyle). Factors such as wind, sunlight, temperature, humidity, rainfall, and topography all affect the accumulation and/or dispersion of pollutants throughout the SCAB.

The average annual temperature varies little throughout the SCAB, and averages about 75 degrees Fahrenheit. However, with a less pronounced oceanic influence, the eastern inland portions of the SCAB show greater variability in annual minimum and maximum temperatures. All portions of the SCAB have had recorded temperatures over 100 degrees in recent years. January is usually the coldest month at all locations, while July and August are usually the hottest months of the year. Although the SCAB has a semi-arid climate, the air near the surface is moist because of the presence of a shallow marine layer. Except for infrequent periods when dry, continental air is brought into the SCAB by off-shore winds, the ocean effect is dominant. Periods with heavy fog are frequent; low stratus clouds, occasionally referred to as “high fog,” are a characteristic climate feature. Annual average relative humidity is 70 percent at the coast and 57 percent in the eastern part of the SCAB. Precipitation in the SCAB is typically 9 to 14 inches annually and is rarely in the form of snow or hail due to typically warm weather. The frequency and amount of rainfall is greater in the coastal areas of the SCAB.

The project vicinity experiences fairly mild weather, with temperatures typically ranging from 43 degrees Fahrenheit in the winter to 80 degrees Fahrenheit in the summer. On average, the warmest month is August with a mean temperature of approximately 80 degrees Fahrenheit. The coolest month is generally December with a mean average of 43 degrees Fahrenheit. The project vicinity experiences the greatest amount of precipitation in the month of February.³

Sunlight

The presence and intensity of sunlight are necessary prerequisites for the formation of photochemical smog. Under the influence of the ultraviolet radiation of sunlight, certain original, or “primary” pollutants (mainly reactive hydrocarbons and oxides of nitrogen) react to form “secondary” pollutants (primarily

³ The Weather Channel, Monthly Averages for Mission Viejo, Accessed June 29, 2012.
<http://www.weather.com/outlook/health/fitness/wxclimatology/monthly/graph/USCA0127>

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oxidants). Since this process is time dependent, secondary pollutants can be formed many miles downwind from the emission sources. Due to the prevailing daytime winds and time-delayed nature of photochemical smog, oxidant concentrations are highest in the inland areas of Southern California.

Temperature Inversions

Under ideal meteorological conditions and irrespective of topography, pollutants emitted into the air would be mixed and dispersed into the upper atmosphere. However, the Southern California region frequently experiences temperature inversions in which pollutants are trapped and accumulate close to the ground. The inversion, a layer of warm, dry air overlaying cool, moist marine air, is a normal condition in the southland. The cool, damp, and hazy sea air capped by coastal clouds is heavier than the warm, clear air that acts as a lid through which the marine layer cannot rise. The height of the inversion is important in determining pollutant concentration. When the inversion is approximately 2,500 feet above sea level, the sea breezes carry the pollutants inland to escape over the mountain slopes or through the passes. At a height of 1,200 feet, the terrain prevents the pollutants from entering the upper atmosphere, resulting in a settlement in the foothill communities. Below 1,200 feet, the inversion puts a tight lid on pollutants, concentrating them in a shallow layer over the entire coastal basin. Usually, inversions are lower before sunrise than during the daylight hours. Mixing heights for inversions are lower in the summer and more persistent, being partly responsible for the high levels of ozone observed during summer months in the SCAB. Smog in Southern California is generally the result of these temperature inversions combining with coastal day winds and local mountains to contain the pollutants for long periods of time, allowing them to form secondary pollutants by reacting with sunlight. The SCAB has a limited ability to disperse these pollutants due to low wind speeds.

The area in which the proposed I-5 Widening project is located offers clear skies and sunshine; however, it is still susceptible to air inversions. This traps a layer of stagnant air near the ground where it is further loaded with pollutants. These inversions cause haziness, which is caused by moisture, suspended dust, and a variety of chemical aerosols emitted by trucks, automobiles, furnaces, and other sources.

Monitored Air Quality

The SCAQMD operates several air quality monitoring stations throughout the SCAB. The project site represents the border between Source Receptor Area (SRA) 19 (Saddleback Valley) and SRA 20 (Central Orange County Coastal). The communities within an SRA are expected to have similar climatology and subsequently, similar ambient air pollutant concentrations. The Mission Viejo Monitoring Station is the closest monitoring station to the site (approximately 1.9 miles northeast) within SRA 19. The data collected at this station is considered to be representative of the air quality experienced on-site. Air quality data from 2005 to 2011 is provided in Table 2 (Ambient PM₁₀ and PM_{2.5} Monitoring Data). Additionally, data from the Anaheim-Pampas Lane Monitoring Station is also included in Table 2, as it represents conditions in close proximity to a freeway (approximately 0.23 miles from I-5). However, it should be noted that this segment of I-5 has greater truck volumes than the portion of I-5 within the project area.⁴

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⁴ Based on Caltrans Traffic and Vehicle Data Systems, *2010 Annual Average Daily Truck Traffic on the California State Highway System*, the segment of I-5 between Lincoln Avenue and Katella Avenue (adjacent to the Anaheim-Pampas Lane Monitoring Station) has a total truck ADT of 25,840. The maximum truck ADT within the project is 12,761 (refer to Table 1). Therefore, Table 2 provides a conservative depiction of the representative air quality within the project area.

Table 2
Ambient PM₁₀ and PM_{2.5} Monitoring Data

Year	Particulate Matter (PM ₁₀)	Fine Particulate Matter (PM _{2.5})			
	Maximum Concentration	Maximum Concentration			
	24 Hour Standard (150 µg/m ³)	24 Hour Standard (35 µg/m ³)	98 th Percentile of 24-hour Concentration	3-Year Average 98 th Percentile	Annual Average (15 µg/m ³)
Mission Viejo Monitoring Station¹					
2011	48.0	33.4	28.8	8.7	8.5
2010	34.0	19.9	17.3	9.3	8.0
2009	56.0	39.2	23.8	NM	9.5
2008	42.0	32.6	27.0	NM	10.4
2007	74.0	46.8	35.7	NM	NM
2006	57.0	46.9	NM	NM	NM
2005	41.0	35.3	31.4	NM	10.6
Anaheim-Pampas Lane Monitoring Station²					
2011	53.0	39.2	28.1	11.2	11.1
2010	43.0	31.7	26.9	NM	10.5
2009	97.4	64.5	32.1	NM	12.1
2008	111.5	67.8	31.2	NM	NM
2007	489.0	79.4	46.5	14.4	14.4
2006	104.0	56.2	36.9	15.2	14.0
2005	65.0	54.7	41.8	16.3	14.7

PM₁₀ = particulate matter 10 microns in diameter or less
µg/m³ = micrograms per cubic meter

PM_{2.5} = particulate matter 2.5 microns in diameter or less
NM = Not Measured

Notes:

1. Measurements taken at the Mission Viejo Monitoring Station located at 26081 Via Pera, Mission Viejo, California 92691.
2. Measurements taken at the Anaheim-Pampas Lane Monitoring Station located at 1630 Pampas Lane, Anaheim, California 92802.
3. PM₁₀ and PM_{2.5} exceedances are derived from the number of samples exceeded, not days.

Source: California Air Resources Board, ADAM Air Quality Data Statistics, <http://www.arb.ca.gov/adam/welcome.html>.

Future Trends

Emission trend data for the SCAB is provided in *The California Almanac of Emissions and Air Quality* (dated 2009) published by CARB and includes an estimate of potential PM₁₀ and PM_{2.5} trends in the vicinity of the project area. Although the CARB's data does not include emission trend data on the county level, the regional trend data can be used to provide insight on the general trends of air quality in the project area, as implementation of emission standards and control requirements that have an effect on regional pollutant concentrations are likely to result in similar trends at the local level. Table 3 (Directly Emitted PM₁₀ Emissions Trends [Tons per Day, Annual Average]) and Table 4 (Directly Emitted PM_{2.5} Emissions Trends [Tons per Day, Annual Average]) depict the CARB Almanac data for PM₁₀ and PM_{2.5} emission trends in the SCAB for the years 1975 through 2020.

Comment [MSOffice2]: The "days above standard" statistic has been removed, as it can be misleading.

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Table 3
Directly Emitted PM₁₀ Emissions Trends (Tons per Day, Annual Average)

Emission Source	1975	1980	1985	1990	1995	2000	2005	2010	2015	2020
All Sources	223	232	253	337	323	320	281	286	297	307
Stationary Sources	60	44	32	29	22	22	20	25	26	28
Area-Wide Sources	122	145	173	249	255	254	213	219	231	241
On-Road Mobile	18	20	25	32	25	24	27	25	24	24
Gasoline Vehicles	10	8	9	11	11	13	16	16	18	20
Diesel Vehicles	8	12	16	21	13	11	11	8	6	4
Other Mobile	24	24	23	27	21	21	21	18	16	15
Gasoline Fuel	2	3	3	4	4	4	4	5	6	7
Diesel Fuel	19	19	18	21	15	15	14	11	8	5
Other Fuel	2	2	2	3	3	2	3	2	2	3

Source: California Air Resources Board, *The California Almanac of Emissions and Air Quality*, 2009.

Table 4
Directly Emitted PM_{2.5} Emissions Trends (Tons per Day, Annual Average)

Emission Source	1975	1980	1985	1990	1995	2000	2005	2010	2015	2020
All Sources	125	114	113	125	108	108	103	102	102	103
Stationary Sources	52	34	23	24	16	16	13	15	16	17
Area-Wide Sources	39	43	49	52	54	56	51	53	56	58
On-Road Mobile	13	15	20	25	19	18	20	18	17	16
Gasoline Vehicles	6	5	5	6	7	8	10	10	12	13
Diesel Vehicles	7	11	15	19	12	10	10	8	5	4
Other Mobile	21	22	21	25	19	19	18	16	14	12
Gasoline Fuel	2	2	2	3	3	3	3	4	4	5
Diesel Fuel	18	18	16	19	14	13	12	10	7	5
Other Fuel	2	2	2	3	3	2	3	2	2	3

Source: California Air Resources Board, *The California Almanac of Emissions and Air Quality*, 2009.

The emissions trends presented above in Table 3 and Table 4 indicate that total on-road emissions are expected to maintain a decreasing trend through 2020, with increases in emissions from on-road gasoline vehicles offset by substantial decreases in emissions from on-road diesel vehicles. Emissions of directly emitted PM₁₀ and PM_{2.5} and from diesel motor vehicles have been decreasing since their peak levels in 1990 even though population and vehicles miles traveled (VMT) are increasing due to adoption of more stringent emission standards. Total on-road PM₁₀ and PM_{2.5} emissions increased between 1975 and 1990, the year in which emissions peaked (32 tons/day for PM₁₀ and 25 tons/day for PM_{2.5}). Total on-road emissions decreased between 1990 and 2000, increased in 2005, and are projected to show a decreasing trend through 2020.

4.3 PROJECT AND EMISSIONS TRAFFIC ANALYSIS

The long-range design year utilized in the Project Approval/Environmental Document (PA/ED) is 2045; however the current horizon year that is used for long-range forecasting by regional planning authorities such as the Orange County Transportation Authority (OCTA) is the year 2035. As such, year 2035 traffic forecasts have been utilized as the baseline source for long-range traffic conditions, with adjustments applied to represent year 2045 conditions as appropriate.

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Interstate 5 Widening Project from SR-73 to El Toro Road

Year 2035 traffic forecasts were prepared using OCTA's Orange County Traffic Analysis Model (OCTAM). As the OCTAM forecasts are for year 2035, volumes for the freeway mainline segments were increased to reflect year 2045 conditions using growth factors identified in Table 5 (Demographic Projections). Traffic volumes were obtained from City sub-area traffic models due to the refined nature of the sub-area models in respect to network coding and zone structure.

Table 5
Demographic Projections

	2010	2035
Population	1,002,544	1,248,283
Total Growth		24.50%
Average Annual Growth		1.00%
Employment	612,795	756,899
Total Growth		23.50%
Average Annual Growth		0.90%

Source: Stantec, I-5 Widening Project from SR-73 to El Toro Road PA/ED (EA 0K0200 EFIS 1200000318) Traffic Report, June 2012.

Existing average daily traffic (ADT) volumes for each freeway segment within the project study area are depicted in Table 1, above, and range from 182,500 to 364,600 ADT, which includes truck volumes that range from 6,388 to 12,761 ADT. [Table 6 \(Opening Year \[2022\] Traffic Volumes\) depicts the opening year traffic volumes along each segment within the project limits. As shown in Table 6, opening year average daily traffic \(ADT\) volumes range from 264,000 to 473,000, which include truck volumes that range from 9,240 to 16,555 ADT. Additionally, both Build Alternatives would have truck daily volumes up to 16,590. Although truck volumes exceed 10,000 ADT, this represents approximately 3.5 percent of the total vehicles on I-5. The proposed project would result in an increase in truck volumes of less than one percent, except for the segment between Avery Parkway and Crown Valley Parkway, which would be 1.14 percent for Alternative 3.](#)

Table 6
Opening Year (2022) Traffic Volumes

<u>Location</u>	2022 No Build		2022 Build (Alternative 2)		2022 Build (Alternative 3)	
	<u>ADT</u>	<u>Truck ADT</u>	<u>ADT</u>	<u>Truck ADT</u>	<u>ADT</u>	<u>Truck ADT</u>
I-5 Mainline						
Junipero Serra Road and SR-73	<u>303,000</u>	<u>10,605</u>	<u>303,000</u>	<u>10,605</u>	<u>304,000</u>	<u>10,640</u>
SR-73 and Avery Parkway	<u>303,000</u>	<u>10,605</u>	<u>303,000</u>	<u>10,605</u>	<u>304,000</u>	<u>10,640</u>
Avery and Crown Valley Parkway	<u>264,000</u>	<u>9,240</u>	<u>266,000</u>	<u>9,310</u>	<u>267,000</u>	<u>9,345</u>
Crown Valley Pky. and Oso Parkway	<u>305,000</u>	<u>10,675</u>	<u>307,000</u>	<u>10,745</u>	<u>307,000</u>	<u>10,745</u>
Oso Parkway and La Paz Road	<u>320,000</u>	<u>11,200</u>	<u>322,000</u>	<u>11,270</u>	<u>323,000</u>	<u>11,305</u>
La Paz Road and Alicia Parkway	<u>348,000</u>	<u>12,180</u>	<u>350,000</u>	<u>12,250</u>	<u>351,000</u>	<u>12,285</u>
Alicia Parkway and El Toro Road	<u>385,000</u>	<u>13,475</u>	<u>387,000</u>	<u>13,545</u>	<u>388,000</u>	<u>13,580</u>
El Toro Road and Lake Forest Drive	<u>395,000</u>	<u>13,825</u>	<u>396,000</u>	<u>13,860</u>	<u>396,000</u>	<u>13,860</u>
Lake Forest Drive and I-405	<u>414,000</u>	<u>14,490</u>	<u>415,000</u>	<u>14,525</u>	<u>415,000</u>	<u>14,525</u>
I-405 and Alton Parkway	<u>473,000</u>	<u>16,555</u>	<u>474,000</u>	<u>16,590</u>	<u>474,000</u>	<u>16,590</u>

ADT = Average Daily Traffic; I-5 = Interstate 5

Source: Stantec, I-5 Widening Project from SR-73 to El Toro Road PA/ED (EA 0K0200 EFIS 1200000318) Traffic Report, June 2012.

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Table 7 (Future Year 2045 Traffic Volumes) depicts the traffic volumes along each freeway segment with each freeway segment within the project study area are for Alternatives 1, 2, and 3. As indicated in Table 7, the highest traffic volumes would occur along I-5 between El Toro Road and Lake Forest Drive for Build Alternative 3. It should be noted that ADT along this segment is projected to be 461,700 with Build Alternative 3, and 457,100 with Alternative 1 No Build Conditions. This traffic increase between the Alternative 1 No Build and Alternative 3 Build scenarios would represent a one percent increase. Additionally, truck ADT would range between 8,000 and 16,000 for all three scenarios. Truck volumes represent approximately 3.5 percent of the overall traffic volume along the I-5 study area.

Table 7
Future Year (2045) Traffic Volumes

Roadway Segment	Alternative 1 (No Build)		Alternative 2 (Build)		Alternative 3 (Build)	
	ADT	Truck ADT	ADT	Truck ADT	ADT	Truck ADT
I-5 Mainline						
Ortega Highway and Junipero Serra Road	338,300	11,841	339,600	11,886	340,200	11,907
Junipero Serra Road and SR-73	352,700	12,345	354,000	12,390	354,600	12,411
SR-73 and Avery Parkway	295,500	10,343	301,000	10,535	302,100	10,574
Avery and Crown Valley	307,000	10,745	312,700	10,945	314,000	10,990
Crown Valley Parkway and Oso Parkway	350,700	12,275	356,600	12,481	358,000	12,530
Oso Parkway and La Paz Road	367,200	12,852	373,400	13,069	374,900	13,122
La Paz Road and Alicia Parkway	400,400	14,014	406,900	14,242	408,400	14,294
Alicia Parkway and El Toro Road	441,100	15,439	448,000	15,680	449,500	15,733
El Toro Road and Lake Forest Drive	457,100	15,999	460,700	16,125	461,700	16,160
Lake Forest Drive and I-405	358,400	12,544	361,000	12,635	361,500	12,653
I-405 and Alton Parkway	227,900	7,977	230,500	8,068	231,000	8,085
Alton Parkway and SR-133	324,400	11,354	327,000	11,445	327,500	11,463

Source: Stantec, I-5 Widening Project from SR-73 to El Toro Road PA/ED (EA OK0200 EFIS 1200000318) Traffic Report, June 2012.

A summary of existing conditions LOS are provided in Table 8 (Intersection LOS Summary [Caltrans Interchanges] – Existing Conditions) and Table 9 (Intersection LOS Summary [Local Jurisdictions] – Existing Conditions). As depicted in Tables 8 and 9, there are no Caltrans or local intersections that exceed the performance standard of the applicable jurisdiction for existing conditions.

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Interstate 5 Widening Project from SR-73 to El Toro Road

Table 8
Intersection LOS Summary (Caltrans Interchanges) – Existing Conditions

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Location	AM Peak Hour		PM Peak Hour	
	Delay	LOS	Delay	LOS
1. Bake Parkway & I-5 NB Ramps ¹	36.4	D	8.2	A
2. Bake Parkway & I-5 SB Ramps ¹	14.4	B	21.8	C
3. Lake Forest Drive & I-5 NB Ramps	10.2	B	11.3	B
4. Lake Forest Drive & I-5 SB Ramps ¹	24.4	C	54.0	D
5. El Toro Road & I-5 NB Ramps ¹	24.1	C	40.6	D
6. I-5 SB Ramps & Avenida de la Carlota ¹	24.1	C	35.8	D
7. I-5 NB Ramps & Alicia Parkway	8.3	A	17.4	B
8. I-5 SB Ramps & Alicia Parkway	22.7	C	28.3	C
9. I-5 NB Ramp/Muirlands Boulevard & La Paz Road	22.3	C	25.9	C
10. I-5 SB Ramps/Cabot Road & La Paz Road	30.2	C	53.7	D
11. I-5 NB Ramps & Oso Parkway	16.5	B	32.4	C
12. I-5 SB Ramps & Oso Parkway	11.3	B	18.4	B
13. I-5 NB Ramps & Crown Valley Parkway ¹	27.6	C	21.0	C
14. I-5 SB Ramps & Crown Valley Parkway ¹	30.1	C	47.1	D
15. I-5 NB Ramps & Avery Parkway	14.7	B	16.0	B
16. I-5 SB Ramps & Avery Parkway	16.1	B	19.4	B
17. I-5 NB Ramps & Junipero Serra Road	21.5	C	21.4	C
18. I-5 SB Ramps & Junipero Serra Road	30.7	C	26.4	C

I-5 = Interstate 5; NB = northbound; SB = southbound; LOS = Level of Service

Notes:

1. Location with LOS E as maximum acceptable LOS. LOS D is the maximum acceptable LOS unless noted otherwise.

Source: Stantec, I-5 Widening Project from SR-73 to El Toro Road PA/ED (EA 0K0200 EFIS 1200000318) Traffic Report, June 2012.

Table 9
Intersection LOS Summary (Local Jurisdictions) – Existing Conditions

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Location	AM Peak Hour		PM Peak Hour	
	ICU	LOS	ICU	LOS
19. Bake Parkway & Jeronimo Road	0.86	D	0.73	C
20. Bake Parkway & Muirlands Boulevard	0.60	A	0.67	B
21. Bake Parkway & Rockfield Boulevard	0.55	A	0.73	C
22. Bake Parkway & Irvine Center Drive	0.32	A	0.39	A
23. Lake Forest Drive & Jeronimo Road	0.61	B	0.65	B
24. Lake Forest Drive & Muirlands Boulevard	0.50	A	0.72	C
25. Lake Forest Drive & Rockfield Boulevard	0.54	A	0.65	B
26. Irvine Center Drive/Moulton Parkway & Lake Forest Drive ¹	0.38	A	0.45	A
27. El Toro Road & Jeronimo	0.64	B	0.84	D
28. El Toro Road & Muirlands Boulevard	0.58	A	0.72	C
29. El Toro Road & Rockfield Boulevard	0.56	A	0.66	B

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Table 9 (continued)
Intersection LOS Summary (Local Jurisdictions) – Existing Conditions

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Location	AM Peak Hour		PM Peak Hour	
	ICU	LOS	ICU	LOS
30. El Toro Road & Avenida de la Carlota ¹	0.60	A	0.71	C
31. Paseo de Valencia & El Toro	0.46	A	0.59	A
32. El Toro Road & Moulton Parkway ¹	0.53	A	0.59	A
33. Jeronimo Road & Alicia Parkway	0.75	C	0.69	B
34. Alicia Parkway & Muirlands Boulevard	0.72	C	0.79	C
35. Paseo de Valencia & Alicia Parkway	0.61	B	0.60	A
36. Moulton Parkway & Alicia Parkway	0.59	A	0.60	A
37. Marguerite Parkway & La Paz Road	0.60	A	0.67	B
38. La Paz Road & Paseo de Valencia	0.45	A	0.48	A
39. Moulton Parkway & La Paz Road	0.43	A	0.41	A
40. Marguerite Parkway & Oso Parkway	0.75	C	0.71	C
41. Cabot Road & Oso Parkway	0.54	A	0.71	C
42. Moulton Parkway & Oso Parkway	0.49	A	0.59	A
43. Marguerite Parkway & Crown Valley Parkway ¹	0.60	A	0.72	C
44. Cabot Road & Crown Valley Parkway	0.57	A	0.69	B
45. Moulton Parkway & Crown Valley Parkway ¹	0.54	A	0.57	A
46. Camino Capistrano & Paseo de Colinas	0.47	A	0.53	A
47. Cabot Road & Paseo de Colinas	0.60	A	0.51	A
48. Golden Lantern & Paseo de Colinas	0.81	D	0.63	B
49. Marguerite Parkway & Avery Parkway	0.74	C	0.75	C
50. Camino Capistrano & Avery Parkway	0.48	A	0.49	A
51. Rancho Viejo & Junipero Serra Road	0.40	A	0.44	A
52. Camino Capistrano & Junipero Serra Road	0.40	A	0.32	A

Notes:

1. Location with LOS E as maximum acceptable LOS. LOS D is the maximum acceptable LOS unless noted otherwise.

Source: Stantec, I-5 Widening Project from SR-73 to El Toro Road PA/ED (EA 0K0200 EFIS 1200000318) Traffic Report, June 2012.

Table 10 (Intersection LOS Summary [Caltrans Interchanges] – 2022 Build and No Build Conditions) and Table 11 (Intersection LOS Summary [Local Jurisdictions] – 2022 Build and No Build Conditions) summarizes the Opening Year delay and LOS within the project area. As shown in Table 10 and Table 11, LOS would generally improve (i.e., delay would be reduced). Build Alternatives 2 and 3 would improve the delay at some of the intersections in the project area and worsen the delay at other intersections in the project area. It should be noted that when compared to the No Build conditions, the delay and LOS for the Build Alternatives would not change significantly for a majority of the intersections.

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Table 10
Intersection LOS Summary (Caltrans Interchanges) – 2022 Build and No Build Conditions

Location	2022 No Build (Alt 1)				2022 Build (Alt 2)				2022 Build (Alt 3)			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Bake Parkway & I-5 NB Ramps ¹	60.8	E ¹	8.2	A	62.9	E ¹	8.3	A	62.6	E ¹	8.3	A
2. Bake Parkway & I-5 SB Ramps ¹	18.7	B	31.4	C	18.6	B	31.5	C	18.6	B	31.7	C
3. Lake Forest Drive & I-5 NB Ramps	11.3	B	13.7	B	11.3	B	13.7	B	11.3	B	13.7	B
4. Lake Forest Drive & I-5 SB Ramps ¹	27.7	C	78.7	E ¹	27.6	C	79.4	E ¹	27.7	C	79.7	E ¹
5. El Toro Road & I-5 NB Ramps ¹	31.2	C	48.2	D	26.4	C	25.7	C	26.6	C	25.7	C
6. I-5 SB Ramps & Avenida de la Carlota ¹	25.8	C	43.2	D	25.8	C	38.2	D	25.3	C	38.0	D
7. I-5 NB Ramps & Alicia Parkway	9.0	A	17.8	B	8.9	A	17.5	B	9.3	A	17.5	B
8. I-5 SB Ramps & Alicia Parkway	28.0	C	45.8	D	22.2	C	32.7	C	22.4	C	32.8	C
9. I-5 NB Ramp/Muirlands & La Paz	25.1	C	31.7	C	21.7	C	26.9	C	21.4	C	28.7	C
10. I-5 SB Ramps/Cabot Road & La Paz Road	35.8	D	45.6	D	27.3	C	42.0	D	28.1	C	41.6	D
11. I-5 NB Ramps & Oso Parkway	17.4	B	34.1	C	17.4	B	33.2	C	17.4	B	33.6	C
12. I-5 SB Ramps & Oso Parkway	11.3	B	20.0	C	11.3	B	22.1	C	11.4	B	23.0	C
13. I-5 NB Ramps & Crown Valley Parkway ¹	30.5	C	27.1	C	10.7	B	10.3	B	10.9	B	10.0	B
14. I-5 SB Ramps & Crown Valley Parkway ¹	36.2	D	65.1	E ¹	36.0	D	62.8	E ¹	37.2	D	62.6	E ¹
15a. I-5 NB Ramps & Avery Parkway (Option A)	18.4	B	17.3	B	14.3	B	14.6	B	14.3	B	14.5	B
15b. I-5 NB Ramps & Avery Parkway (Option B)	18.4	B	17.3	B	19.0	B	14.0	B	17.6	B	14.0	B
16a. I-5 SB Ramps & Avery Parkway (Option A)	16.3	B	30.4	C	15.6	B	16.7	B	15.7	B	16.7	B
16b. I-5 SB Ramps & Avery Parkway (Option B)	16.3	B	30.4	C	15.0	B	17.5	B	15.8	B	17.1	B
17. I-5 NB Ramps & Junipero Serra Road	23.7	C	21.7	C	24.2	C	21.8	C	24.6	C	21.8	C
18. I-5 SB Ramps & Junipero Serra Road	33.2	C	29.4	C	33.3	C	29.3	C	33.5	C	29.3	C
<u>Location Outside of Project Limits</u>												
<u>Notes:</u>												
1. Location with LOS E as maximum acceptable LOS.												
Source: Stantec, I-5 Widening Project from SR-73 to El Toro Road PA/ED (EA 0K0200 EFIS 1200000318) Traffic Report, June 2012.												

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Table 11
Intersection LOS Summary (Local Jurisdictions) – 2022 Build and No Build Conditions

Location	2022 No Build (Alternative 1)				2022 Build (Alternative 2)				2022 Build (Alternative 3)			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
19. Bake Parkway & Jeronimo Road	0.79	C	0.75	C	0.79	C	0.75	C	0.79	C	0.75	C
20. Bake Parkway & Muirlands Boulevard	0.64	B	0.73	C	0.64	B	0.72	C	0.64	B	0.73	C
21. Bake Parkway & Rockfield Boulevard	0.59	A	0.80	C	0.60	A	0.80	C	0.61	B	0.80	C
22. Bake Parkway & Irvine Center Drive	0.34	A	0.45	A	0.33	A	0.45	A	0.34	A	0.45	A
23. Lake Forest Drive & Jeronimo Road	0.66	B	0.74	C	0.66	B	0.74	C	0.66	B	0.74	C
24. Lake Forest Drive & Muirlands Boulevard	0.59	A	0.75	C	0.59	A	0.75	C	0.59	A	0.75	C
25. Lake Forest Drive & Rockfield Boulevard	0.62	B	0.74	C	0.62	B	0.74	C	0.62	B	0.74	C
26. Irvine Center Drive/Moulton Parkway & Lake Forest Drive ¹	0.46	A	0.54	A	0.46	A	0.54	A	0.46	A	0.54	A
27. El Toro Road & Jeronimo	0.69	B	0.88	D	0.69	B	0.87	D	0.70	B	0.87	D
28. El Toro Road & Muirlands Boulevard	0.64	B	0.77	C	0.64	B	0.77	C	0.64	B	0.77	C
29. El Toro Road & Rockfield Boulevard	0.59	A	0.69	B	0.59	A	0.69	B	0.59	A	0.69	B
30. El Toro Road & Avenida de la Carlota ¹	0.68	B	0.75	C	0.68	B	0.74	C	0.68	B	0.75	C
31. Paseo de Valencia & El Toro	0.51	A	0.66	B	0.50	A	0.66	B	0.50	A	0.66	B
32. El Toro Road & Moulton Parkway ¹	0.62	B	0.68	B	0.61	B	0.68	B	0.61	B	0.68	B
33. Jeronimo Road & Alicia Parkway	0.76	C	0.73	C	0.76	C	0.72	C	0.76	C	0.71	C
34. Alicia Parkway & Muirlands Boulevard	0.73	C	0.83	D	0.73	C	0.83	D	0.73	C	0.82	D
35. Paseo de Valencia & Alicia Parkway	0.67	B	0.67	B	0.66	B	0.66	B	0.66	B	0.65	B
36. Moulton Parkway & Alicia Parkway	0.64	B	0.64	B	0.63	B	0.63	B	0.62	B	0.63	B
37. Marguerite Parkway & La Paz Road	0.62	B	0.73	C	0.61	B	0.70	B	0.61	B	0.70	B
38. La Paz Road & Paseo de Valencia	0.49	A	0.51	A	0.49	A	0.51	A	0.49	A	0.51	A
39. Moulton Parkway & La Paz Road	0.48	A	0.44	A	0.46	A	0.44	A	0.46	A	0.44	A
40. Marguerite Parkway & Oso Parkway	0.80	C	0.73	C	0.79	C	0.72	C	0.79	C	0.72	C
41. Cabot Road & Oso Parkway	0.56	A	0.75	C	0.58	A	0.73	C	0.59	A	0.74	C
42. Moulton Parkway & Oso Parkway	0.5	A	0.60	A	0.50	A	0.61	A	0.51	A	0.60	A
43. Marguerite Parkway & Crown Valley Parkway ¹	0.74	C	0.81	D	0.74	C	0.82	D	0.74	C	0.82	D
44. Cabot Road & Crown Valley Parkway	0.62	B	0.74	C	0.64	B	0.74	C	0.64	B	0.74	C
45. Moulton Parkway & Crown Valley Parkway ¹	0.62	B	0.68	B	0.62	B	0.68	B	0.63	B	0.68	B
46. Camino Capistrano & Paseo de Colinas	0.53	A	0.56	A	0.53	A	0.44	A	0.53	A	0.43	A
47. Cabot & Paseo de Colinas	0.63	B	0.56	A	0.64	B	0.56	A	0.65	B	0.57	A
48. Golden Lantern & Paseo de Colinas	0.89	D	0.70	B	0.90	D	0.71	C	0.90	D	0.71	C
49. Marguerite Parkway & Avery Parkway	0.80	C	0.83	D	0.76	C	0.71	C	0.76	C	0.72	C
50a. Camino Capistrano & Avery Parkway (Option A)	0.57	A	0.54	A	0.57	A	0.55	A	0.57	A	0.54	A
50b. Camino Capistrano & Avery Parkway (Option B)	0.57	A	0.54	A	0.59	A	0.72	C	0.60	A	0.74	C
51. Rancho Viejo & Junipero Serra	0.47	A	0.49	A	0.46	A	0.49	A	0.47	A	0.49	A
52. Camino Capistrano & Junipero Serra	0.45	A	0.39	A	0.44	A	0.39	A	0.44	A	0.39	A

Source: Stantec, I-5 Widening Project from SR-73 to El Toro Road PAVED (EA 0K0200 EFIS 1200000318) Traffic Report, June 2012.

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A summary of the 2045 Build and No Build conditions LOS are provided in Table [12](#) (Intersection LOS Summary [Caltrans Interchanges] – 2045 Build and No Build Conditions) and Table [13](#) (Intersection LOS Summary [Local Jurisdictions] – 2045 Build and No Build Conditions). The intersections that would exceed the performance standard of the applicable jurisdiction are depicted as bold in Table [12](#) and [13](#). As shown in Tables [12](#) and [13](#), implementation of Build Alternatives 2 and 3 would improve the delay at some of the intersections in the project area and worsen the delay at other intersections in the project area. It should be noted that when compared to the No Build conditions, the delay and LOS for the Build Alternatives would not change significantly for a majority of the intersections. Therefore, a vehicle emission analysis was prepared to determine the effects of proposed project on the region attaining the federal PM₁₀ and PM_{2.5} AAQS.

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Traffic Emissions Analysis

The Caltrans' EMissions FACTors (CT-EMFAC) model was used to estimate PM₁₀ and PM_{2.5} emissions related to mobile exhaust, tire wear, and brake wear for each project alternative under the existing future 2045 years. The CT-EMFAC model does not estimate re-entrained road dust emissions. Therefore, re-entrained road dust emissions were calculated using the empirical equation found in Section 13.2.1 of the EPA's *AP-42 Compilation of Air Pollutant Emission Factors* (updated in January 2011). Emissions were calculated using traffic data within the Traffic Report and supplemental data provided by Stantec (refer to Appendix B [Traffic Data]). Variables to calculate road dust emissions included vehicle miles traveled (VMT), average vehicle weight, AP-42 silt loading factors and particle size coefficients, and precipitation data.

The emission factors from CT-EMFAC are pollutant emissions in grams per mile of vehicle travel. Multiplying these emission factors by the VMT in the project area provides an estimate of the total emissions from vehicles traveling through the project area. VMT for the existing, 2045 No Build and 2045 Build scenarios were based on the traffic volumes and VMT data provided by Stantec, which is summarized in Table [14](#) (Study Area Vehicle Miles Traveled and Vehicle Hours Traveled). Table [14](#) also includes Vehicle Hours Traveled (VHT).

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Table 12
Intersection LOS Summary (Caltrans Interchanges) – 2045 Build and No Build Conditions

Location	2045 No Build (Alt 1)				2045 Build (Alt 2)				2045 Build (Alt 3)			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Bake Parkway & I-5 NB Ramps ¹	49.5	D	11.7	B	54.1	D	12.2	B	57.3	E ¹	12.4	B
2. Bake Parkway & I-5 SB Ramps ¹	31.1	C	57.4	E ¹	30.2	C	57.9	E ¹	29.7	C	58.4	E ¹
3. Lake Forest Drive & I-5 NB Ramps	30.0	C	17.3	B	29.4	C	17.3	B	29.2	C	17.3	B
4. Lake Forest Drive & I-5 SB Ramps ¹	40.3	D	128.2	F	40.6	D	132.7	F	42.7	D	133.8	F
5. El Toro Road & I-5 NB Ramps ¹	45.9	D	82.0	F ¹	31.1	C	28.4	C	32.0	C	27.5	C
6. I-5 SB Ramps & Avenida de la Carlota ¹	34.0	C	97.1	F	30.2	C	81.6	F	31.4	C	80.2	F
7. I-5 NB Ramps & Alicia Parkway	14.4	B	30.4	C	10.9	B	30.9	C	14.8	B	30.2	C
8. I-5 SB Ramps & Alicia Parkway	66.6	E	100.5	F	59.9	E	102.1	F	51.7	D	103.0	F
9. I-5 NB Ramp/Muirlands & La Paz	43.5	D	54.5	D	23.2	C	41.4	D	22.8	C	51.2	D
10. I-5 SB Ramps/Cabot Road & La Paz Road	85.8	F	80.5	F	69.3	E	63.2	E	76.5	E	60.6	E
11. I-5 NB Ramps & Oso Parkway	19.9	B	40.1	D	18.6	B	39.8	D	18.1	B	43.7	D
12. I-5 SB Ramps & Oso Parkway	13.0	B	24.4	C	12.7	B	27.4	C	13.3	B	30.0	C
13. I-5 NB Ramps & Crown Valley Parkway ¹	38.2	D	37.8	D	37.8	D	24.4	C	38.0	D	26.1	C
14. I-5 SB Ramps & Crown Valley Parkway ¹	47.5	D	102.5	F	45.1	D	103.6	F	47.0	D	103.7	F
15a. I-5 NB Ramps & Avery Parkway (Option A)	22.3	C	40.9	D	14.7	B	14.9	B	14.5	B	14.6	B
15b. I-5 NB Ramps & Avery Parkway (Option B)	22.3	C	40.9	D	20.4	C	15.9	B	20.2	C	15.6	B
16a. I-5 SB Ramps & Avery Parkway (Option A)	21.9	C	56.1	E	18.9	B	17.6	B	18.9	B	17.8	B
16b. I-5 SB Ramps & Avery Parkway (Option B)	21.9	C	56.1	E	15.7	B	20.7	C	16.2	B	21.4	C
17. I-5 NB Ramps & Junipero Serra Road	58.8	E	69.6	E	67.3	E	70.8	E	75.1	E	71.0	E
18. I-5 SB Ramps & Junipero Serra Road	37.2	D	100.3	F	37.3	D	98.8	F	38.3	D	98.5	F
Location Outside of Project Limits												
Notes:												
1. Location with LOS E as maximum acceptable LOS.												
Source: Stantec, I-5 Widening Project from SR-73 to El Toro Road PA/ED (EA 0K0200 EFIS 1200000318) Traffic Report, June 2012.												

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Table 13
Intersection LOS Summary (Local Jurisdictions) – 2045 Build and No Build Conditions

Location	2045 No Build (Alternative 1)				2045 Build (Alternative 2)				2045 Build (Alternative 3)			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
19. Bake Parkway & Jeronimo Road	0.82	D	0.90	D	0.81	D	0.90	D	0.81	D	0.89	D
20. Bake Parkway & Muirlands Boulevard	0.75	C	0.93	E	0.75	C	0.94	E	0.76	C	0.94	E
21. Bake Parkway & Rockfield Boulevard	0.72	C	0.89	D	0.72	C	0.89	D	0.73	C	0.89	D
22. Bake Parkway & Irvine Center Drive	0.55	A	0.56	A	0.54	A	0.56	A	0.54	A	0.56	A
23. Lake Forest Drive & Jeronimo Road	0.77	C	0.92	E	0.77	C	0.91	E	0.76	C	0.91	E
24. Lake Forest Drive & Muirlands Boulevard	0.79	C	0.88	D	0.78	C	0.87	D	0.77	C	0.86	D
25. Lake Forest Drive & Rockfield Boulevard	0.84	D	0.91	E	0.83	D	0.90	D	0.83	D	0.90	D
26. Irvine Center Drive/Moulton Parkway & Lake Forest Drive ¹	0.60	A	0.81	D	0.60	A	0.80	C	0.61	B	0.80	C
27. El Toro Road & Jeronimo	0.92	E	0.95	E	0.92	E	0.93	E	0.93	E	0.93	E
28. El Toro Road & Muirlands Boulevard	0.80	C	0.89	D	0.80	C	0.89	D	0.80	C	0.89	D
29. El Toro Road & Rockfield Boulevard	0.66	B	0.79	C	0.65	B	0.80	C	0.65	B	0.79	C
30. El Toro Road & Avenida de la Carlota ¹	0.87	D	0.83	D	0.88	D	0.81	D	0.89	D	0.81	D
31. Paseo de Valencia & El Toro	0.57	A	0.83	D	0.55	A	0.82	D	0.55	A	0.82	D
32. El Toro Road & Moulton Parkway ¹	0.85	D	0.93	E ¹	0.80	D	0.90	D	0.79	C	0.88	D
33. Jeronimo Road & Alicia Parkway	0.81	D	0.80	C	0.79	C	0.77	C	0.79	C	0.77	C
34. Alicia Parkway & Muirlands Boulevard	0.76	C	0.96	E	0.75	C	0.94	E	0.76	C	0.93	E
35. Paseo de Valencia & Alicia Parkway	0.79	C	0.83	D	0.77	C	0.81	D	0.75	C	0.81	D
36. Moulton Parkway & Alicia Parkway	0.68	B	0.71	C	0.65	B	0.66	B	0.64	B	0.65	B
37. Marguerite Parkway & La Paz Road	0.66	B	0.85	D	0.67	B	0.81	D	0.65	B	0.78	C
38. La Paz Road & Paseo de Valencia	0.58	A	0.59	A	0.54	A	0.60	A	0.54	A	0.60	A
39. Moulton Parkway & La Paz Road	0.56	A	0.53	A	0.52	A	0.53	A	0.51	A	0.51	A
40. Marguerite Parkway & Oso Parkway	0.90	D	0.81	D	0.87	D	0.80	C	0.88	D	0.82	D
41. Cabot Road & Oso Parkway	0.62	B	0.81	D	0.68	B	0.80	C	0.69	B	0.83	D
42. Moulton Parkway & Oso Parkway	0.57	A	0.67	B	0.54	A	0.66	B	0.55	A	0.67	B
43. Marguerite Parkway & Crown Valley Parkway ¹	1.00	E ¹	1.07	F	1.00	E ¹	1.07	F	1.00	E ¹	1.05	F
44. Cabot Road & Crown Valley Parkway	0.81	D	0.83	D	0.80	D	0.85	D	0.80	C	0.83	D
45. Moulton Parkway & Crown Valley Parkway ¹	0.84	D	0.91	E ¹	0.82	D	0.90	D	0.84	D	0.89	D
46. Camino Capistrano & Paseo de Colinas	0.67	B	0.64	B	0.66	B	0.50	A	0.65	B	0.48	A
47. Cabot & Paseo de Colinas	0.68	B	0.72	C	0.71	C	0.72	C	0.72	C	0.75	C
48. Golden Lantern & Paseo de Colinas	1.10	F	0.89	D	1.11	F	0.89	D	1.11	F	0.90	D
49. Marguerite Parkway & Avery Parkway	0.99	E	1.04	F	0.85	D	0.86	D	0.84	D	0.85	D
50a. Camino Capistrano & Avery Parkway (Option A)	0.77	C	0.67	B	0.77	C	0.67	B	0.78	C	0.65	B
50b. Camino Capistrano & Avery Parkway (Option B)	0.77	C	0.67	B	0.69	B	0.86	D	0.69	B	0.86	D
51. Rancho Viejo & Junipero Serra	0.59	B	0.62	B	0.59	B	0.62	B	0.60	B	0.61	B
52. Camino Capistrano & Junipero Serra	0.57	B	0.58	A	0.57	B	0.59	A	0.57	B	0.59	A

Source: Stantec, I-5 Widening Project from SR-73 to El Toro Road PA/EED (EA 0K0200 EFIS 1200000318) Traffic Report, June 2012.

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Interstate 5 Widening Project from SR-73 to El Toro Road

Table 14
Study Area Vehicle Miles Traveled and Vehicle Hours Traveled

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Period

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Scenario ¹	Project Corridor		Surrounding Area					Total	
	Freeway/ Ramps	HOV	Toll Road	Primary Arterial	Secondary Arterial	Local Streets	Smart Streets		
Vehicle Miles Traveled									
Existing	3,182,757	398,087	166,417	1,658,200	56,220	4,822	N/A	5,466,502	
<u>Opening Year (2022)</u>	Alt. 1	3,425,255	454,546	185,561	1,674,083	66,994	5,386	116,747	5,928,542
	Alt. 2	3,449,362	455,906	180,661	1,666,483	66,898	5,313	113,140	5,937,763
	<u>Percent Change²</u>	<u>0.70%</u>	<u>0.30%</u>	<u>-2.64%</u>	<u>-0.45%</u>	<u>-0.14%</u>	<u>-1.36%</u>	<u>-3.09%</u>	<u>0.16%</u>
	Alt. 3	3,458,175	454,173	180,119	1,664,700	67,016	5,340	112,202	5,941,725
	<u>Percent Change²</u>	<u>0.96%</u>	<u>-0.08%</u>	<u>-2.93%</u>	<u>-0.56%</u>	<u>0.03%</u>	<u>-0.85%</u>	<u>-3.89%</u>	<u>0.22%</u>
	Alt. 1	3,889,661	562,690	222,231	1,704,507	87,631	6,467	340,370	6,813,557
<u>Horizon Year (2045)</u>	Alt. 2	3,960,030	566,656	207,945	1,682,349	87,351	6,253	329,853	6,840,437
	<u>Percent Change²</u>	<u>1.81%</u>	<u>0.70%</u>	<u>-6.43%</u>	<u>-1.30%</u>	<u>-0.32%</u>	<u>-3.31%</u>	<u>-3.09%</u>	<u>0.39%</u>
	Alt. 3	3,985,723	561,604	206,365	1,677,151	87,694	6,333	327,120	6,851,989
	<u>Percent Change²</u>	<u>2.47%</u>	<u>-0.19%</u>	<u>-7.14%</u>	<u>-1.60%</u>	<u>0.07%</u>	<u>-2.07%</u>	<u>-3.89%</u>	<u>0.56%</u>
Vehicle Hours Traveled									
Existing	54,535	6,130	2,560	46,208	1,639	161	N/A	111,231	
<u>Opening Year (2022)</u>	Alt. 1	58,505	6,999	2,854	46,705	1,948	180	3,064	120,255
	Alt. 2	58,890	7,020	2,779	46,494	1,945	177	2,972	120,276
	<u>Percent Change²</u>	<u>0.66%</u>	<u>0.30%</u>	<u>-2.63%</u>	<u>-0.45%</u>	<u>-0.15%</u>	<u>-1.67%</u>	<u>-3.00%</u>	<u>0.02%</u>
	Alt. 3	59,032	6,993	2,770	46,446	1,949	179	2,949	120,317
	<u>Percent Change²</u>	<u>0.90%</u>	<u>-0.09%</u>	<u>-2.94%</u>	<u>-0.55%</u>	<u>0.05%</u>	<u>-0.56%</u>	<u>-3.75%</u>	<u>0.05%</u>
	Alt. 1	66,110	8,664	3,418	47,658	2,542	216	8,932	137,540
<u>Horizon Year (2045)</u>	Alt. 2	67,231	8,725	3,198	47,042	2,533	208	8,664	137,602
	<u>Percent Change²</u>	<u>1.70%</u>	<u>0.70%</u>	<u>-6.44%</u>	<u>-1.29%</u>	<u>-0.35%</u>	<u>-3.70%</u>	<u>-3.00%</u>	<u>0.05%</u>
	Alt. 3	67,645	8,647	3,174	46,902	2,543	211	8,598	137,719
	<u>Percent Change²</u>	<u>2.32%</u>	<u>-0.20%</u>	<u>-7.14%</u>	<u>-1.59%</u>	<u>0.04%</u>	<u>-2.31%</u>	<u>-3.74%</u>	<u>0.13%</u>
Notes:									
1. Alternative 1 is the No Build Scenario. Alternative 2 and 3 are the Build Scenarios.									
2. Percent change is the change from No Build conditions.									
Source: VMT and VHT data provided by Stantec on July 10, 2012; refer to Appendix B.									

As indicated in Table 14, Horizon Year VMT associated with Build Alternatives 2 and 3 would increase from the No Build Alternative by 0.39 percent and 0.56 percent, respectively. However, Horizon Year VHT associated with Build Alternatives 2 and 3 would increase from the No Build Alternative by 0.05 percent and 0.13 percent, respectively. As a result, VMT would increase at a higher rate than VHT, which indicates that although traffic volumes increase slightly, congestion and travel time would decrease with implementation of the Build Alternatives. Additionally, while VMT and VHT would increase

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within the project corridor slightly, VMT and VHT within the surrounding area would decrease when compared to No Build conditions.

Table 15 (Daily PM₁₀ and PM_{2.5} Emissions) presents the estimated emissions from traffic in the project area; refer to Appendix C (Emissions Modeling and Calculations). The data indicates that particulate matter emissions would not vary significantly between future Build and No Build conditions. Under the Build Alternatives (both Opening Year and Horizon Year), emissions along the project corridor would generally increase slightly from Alternative 1 No Build Conditions; however, emissions within the surrounding area would decrease slightly. The surrounding area includes arterial roadways and intersections in the vicinity of the project. It should be noted that although emissions generally increase with the build alternatives, opening year Alternative 2 exhaust emissions would be slightly lower than Alternative 1 (No Build) conditions. The emissions increase along the project corridor and the decrease in the surrounding areas correspond to the slight shift in VMT from the surrounding area to the project corridor. As a result, the improvements along the freeway corridor would improve the operations and functionality of the ramps and freeway mainline, and would also divert traffic from the surrounding areas to the improved freeway corridor.

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It should be noted that emissions would likely be lower than those depicted in Table 15, due to various EPA national emissions control programs that are projected to reduce mobile source emissions. These control measures include retrofit measures that help reduce the future emissions, creating a decreasing trend in background concentrations that would help offset any increase in VMT-related emissions in the future years. Furthermore, CARB has adopted a Diesel Risk Reduction Plan (DRRP) with control measures that would reduce overall diesel particulate matter emissions by about 85 percent from 2000 to 2020.

Deleted: Emissions associated with Alternative 2 would increase by approximately 0.57 percent for PM₁₀ and by approximately 0.78 percent for PM_{2.5}, while emissions associated with Alternative 3 would increase by 0.80 percent for PM₁₀ and by approximately 1.13 percent for PM_{2.5}.

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Table 15
Daily PM₁₀ and PM_{2.5} Emissions

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¶ Scenario

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Comment [MSOffice3]: Emissions have been re-modeled to compare the project corridor to the surrounding area in order to provide a sub-regional analysis.

<u>Scenario¹</u>		Emissions (lbs/day)							
		Project Corridor				Surrounding Area			
		PM ₁₀		PM _{2.5}		PM ₁₀		PM _{2.5}	
Exhaust/ Break/Tire Wear	Road Dust								
Existing	179.98	867.99	165.62	213.05	85.92	457.08	78.38	112.19	
Opening Year (2022)	Alt. 1	166.00	940.45	154.39	230.84	80.73	496.62	74.96	121.90
	Alt. 2	165.67	1,097.26	153.97	232.35	80.00	492.67	74.26	120.93
	Alt. 3	166.52	948.35	154.77	232.78	79.81	491.92	74.08	120.74
Horizon Year (2045)	Alt. 1	184.93	1,079.24	170.89	264.90	94.41	572.35	87.43	140.49
	Alt. 2	191.40	1,097.26	191.40	269.33	92.37	560.85	85.49	137.66
	Alt. 3	193.84	1,102.26	193.84	270.56	91.75	558.65	84.92	137.12

Notes:

1. Alternative 1 is the No Build Scenario. Alternative 2 and 3 are the Build Scenarios.

Source: California Department of Transportation and University of California, Davis, CT-EMFAC, 2007. Based on traffic data provided by Stantec. Refer to Appendix C for calculations and modeling outputs.

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5.0 CONCLUSION

The proposed I-5 Widening project would maximize overall performance within the project limits; reduce congestion on I-5 within the project limits; provide intermittent auxiliary lanes, where needed, to relieve congestion at diverge and merge locations; minimize right-of-way acquisition; and relieve congestion within interchange areas, on- and off-ramps, and local intersections. The proposed project would add general purpose lanes in each direction on I-5 between Avery Parkway and Alicia Parkway, extend the 2nd High Occupancy Vehicle (HOV) lane from Alicia Parkway to El Toro Road, reestablish existing auxiliary lanes and construct new auxiliary lanes, and improve several existing on- and off-ramps.

Transportation conformity is required under FCAA section 176(c) (42 USC 7506(c)) and requires that no federal dollars be used to fund a transportation project unless it can be clearly demonstrated that the project would not cause or contribute to new violations of the NAAQS, increase the frequency or severity of any existing violation, or delay timely attainment of the NAAQS. As required by Final EPA rule published on March 10, 2006, this qualitative assessment demonstrates that the proposed project meets the FCAA conformity requirements and would not conflict with state and local measures to improve regional air quality.

Implementation of the proposed project would not result in new violations of the federal PM₁₀ or PM_{2.5} air quality standards for the following reasons:

- Based on representative monitoring data, ambient PM₁₀ and PM_{2.5} are on a declining trend (refer to Table 2).
- Based on representative monitoring data, PM₁₀ and PM_{2.5} 24-hour concentrations have exceeded the national standard of 150 µg/m³ and 35 µg/m³, respectively, one time in the past three years at the Mission-Viejo Monitoring Station. PM₁₀ and PM_{2.5} 24-hour concentrations have exceeded the national standard seven times in the past three years at the Anaheim-Pampas Lane Monitoring Station. It should be noted that the Anaheim-Pampas Lane Monitoring Station represents air quality closer to I-5; however, the freeway segment adjacent to this monitoring station has approximately twice as many daily heavy trucks as the project study area.
- In general, construction of either Build Alternative would result in improved level of service in the local project region as a whole, as the project increases efficiency of the roadway, resulting in improvements in sub-regional emissions beyond the immediate project area.
- Construction of either Build Alternative would result in improvement to overall speeds in the local project corridor and project region. Although project corridor emissions would increase slightly due to higher demand, traffic volumes in the surrounding area would decrease and overall operations within the surrounding project area would improve.
- The proposed project would not induce development in the area, but would accommodate projected growth and development by improving the mobility and operations of the roadway network in the project area.
- The proposed project would not result in a substantial increase in diesel truck percentages in the project area (i.e., heavy truck volumes would remain around approximately 3.5 percent of total volumes during both the No Build Alternative and Build Alternative).

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- The proposed project would extend the 2nd HOV lanes from Alicia Parkway to El Toro Road, which would improve HOV capacity, which would encourage carpooling and discourage single occupant vehicle trips.
- VHT associated with Build Alternatives 2 and 3 would increase from the No Build Alternative by 0.05 percent and 0.13 percent, respectively. VMT would increase at a higher rate than VHT, which indicates that although traffic volumes increase slightly, congestion and travel time would decrease with implementation of the Build Alternatives.
- Although emissions would slightly increase along the project corridor with the Build Alternatives, emissions within the surrounding area would decrease slightly (the surrounding area includes arterial roadways and intersections in the vicinity of the project). This indicates that traffic in the project area would shift from the arterials and local roads to the freeway with implementation of the proposed project. The improvements along the project corridor would improve the operations and functionality of the ramps and freeway mainline, and would also divert traffic from the surrounding areas, which would also reduce emission in the surrounding area. Thus, the project would not result in a new exceedance or delay attainment of the federal PM₁₀ and PM_{2.5} standards.

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Deleted: Based on the representative monitoring data, such increases would not significantly increase regional emissions.

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6.0 REFERENCES

6.1 DOCUMENTS

1. California Air Resources Board, *The California Almanac of Emissions and Air Quality*, 2009.
2. Environmental Protection Agency, *Transportation Conformity Guidance for Qualitative Hot-Spot Analyses in PM_{2.5} and PM₁₀ Nonattainment and Maintenance Areas*, March 2006.
3. South Coast Air Quality Management Agency, *2007 Air Quality Management Plan, South Coast Air Basin*, June 2007.
4. Stantec, *I-5 Widening Project from SR-73 to El Toro Road PA/ED (EA 0K0200 EFIS 1200000318) Traffic Report*, June 2012.

6.2 WEB SITES/PROGRAMS

California Air Resources Board, Aerometric Data Analysis and Management (ADAM) Air Quality Data
www.arb.ca.gov.

CT-EMFAC: A Computer Model to Estimate Transportation Project Emissions, December 10, 2007.
http://www.dot.ca.gov/hq/env/air/pages/ctemfac_license.htm

South Coast Air Quality Management District, www.aqmd.gov.

Southern California Association of Government, Transportation Conformity Working Group (TCWG),
<http://www.scag.ca.gov/tcwg/>.


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APPENDIX

A. RTP and FTIP Conformity Documentation



2011 Federal Transportation Improvement Program

Orange County

State Highway

Including Amendments 1-15 and 17-26

(In \$000's)

ProjectID	County	Air Basin	Model	RTP ID	Program	Route	Begin	End	System	Conformity Category	Amendment
ORA120401	Orange	SCAB		ORA120401	NCR42	5	4.9	5	S	EXEMPT - 93.126	1
Description: SOUTHBOUND INTERSTATE 5 FROM EL CAMINO REAL TO AVENIDA RAMONA - SOUNDWALL DESIGN AND CONSTRUCTION PPNO 2544B. DUAL LEAD AGENCY OCTA FOR PA&ED AND PS&E CALTRAN LEAD FOR ROW CON											

Fund	ENG	R/W	CON	Total	Prior	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016	Total
STATE CASH - RIP	646	111	4,238	4,995	757		4,238					4,995
ORA120401 Total	646	111	4,238	4,995	757		4,238					4,995

ProjectID	County	Air Basin	Model	RTP ID	Program	Route	Begin	End	System	Conformity Category	Amendment
ORA030602	Orange	SCAB		ORA030602	CAR63	5	5.6	6	S	NON-EXEMPT	0
Description: IN SAN CLEMENTE - SB CAMINO DE ESTRELLA - WIDEN OFF RAMP FROM 1 TO 2 LANES AND WIDEN OVERCROSSING FROM 5 TO 7 LANES (1 W/B LEFT TURN LANE AND 1 E/B LANE), EA OF0600, SHOPP, Mobility											

Fund	ENG	R/W	CON	Total	Prior	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016	Total
SHOPP - ADVANCE CONSTRUCTION	5,247	1,509	6,737	13,493						13,493		13,493
ORA030602 Total	5,247	1,509	6,737	13,493						13,493		13,493

ProjectID	County	Air Basin	Model	RTP ID	Program	Route	Begin	End	System	Conformity Category	Amendment
ORA111001	Orange	SCAB		2H01143	CAY69	5	6.2	8.7	S	NON-EXEMPT	23
Description: Interstate 5 Add 1 HOV in each direction from South of Pacific Coast Highway to San Juan Creek Road. PPNO:2531F											

Fund	ENG	R/W	CON	Total	Prior	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016	Total
CMAQ	2,067		15,084	17,151				2,067	15,084			17,151
ORANGE M2 - FREEWAY	4,196	168	20,789	25,153	1,500			2,706	20,947			25,153
STATE LOCAL PARTNER			20,789	20,789					20,789			20,789
ORA111001 Total	6,263	168	56,662	63,093	1,500			4,773	56,820			63,093

ProjectID	County	Air Basin	Model	RTP ID	Program	Route	Begin	End	System	Conformity Category	Amendment
*ORA111801	Orange	SCAB		2M0730	CAX63	5	12.6	18.7	S	NON-EXEMPT	23
Description: I-5 Widening (Avery Parkway to Alicia Parkway) - One Lane in Each Directions (4-5 lanes each direction) and reconstruction of La Paz and Avery Parkway interchanges											

Fund	ENG	R/W	CON	Total	Prior	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016	Total
FFY 2006 APPROPRIATIONS EARMARKS	984			984					984			984
STP LOCAL - REGIONAL	5,000		5,000				5,000					5,000
ORANGE M2 - FREEWAY	1,000		1,000				1,000					1,000
ORA111801 Total	6,984		6,984				6,000	984				6,984

B. Traffic Data

Mid-Day Period VMT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	0	0	32839.6	32839.6
Freeway	0	0	0	0	0	0	0	3178.2	2586.6	43655.8	105544.5	312056.3	407117.8	87441	961580.2
Major	0	0	0	0	0	0	8931.2	130590.3	94336.5	1435.3	0	0	0	0	235293.3
Primary	0	0	0	0	0	0	24326.3	109505.4	38667.1	0	0	0	0	0	172498.8
Secondary	0	0	0	0	0	0	2459.9	13141.1	0	0	0	0	0	0	15601
Local	0	0	0	0	0	0	1114.7	0	0	0	0	0	0	0	1114.7
Smart Street	0	0	0	0	0	0	8449.6	0	16055.5	708.6	0	0	0	0	25213.7
HOV	0	0	0	0	0	0	0	0	0	0	0	0	11367.9	109928.3	121296.2
Ramps	0	1477.5	775.1	5548.9	4005.6	5932	8138.4	0	0	18239.3	0	0	0	0	44116.8
Centroid Connector	0	0	0	0	0	0	59114.6	0	0	0	0	0	0	0	59114.6
TOTAL	0	1477.5	775.1	5548.9	4005.6	5932	112534.7	256415	151645.7	64039	105544.5	312056.3	418485.7	230208.9	1668668.9

Mid-Day Period VHT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	0	0	505	505
Freeway	0	0	0	0	0	0	0	50.2	40.2	676.8	1626.4	4808	6261.8	1341.1	14804.5
Major	0	0	0	0	0	0	289.7	3728.9	2364.9	31.4	0	0	0	0	6414.9
Primary	0	0	0	0	0	0	808.1	3124.1	967.2	0	0	0	0	0	4899.4
Secondary	0	0	0	0	0	0	74.9	376.7	0	0	0	0	0	0	451.6
Local	0	0	0	0	0	0	37.2	0	0	0	0	0	0	0	37.2
Smart Street	0	0	0	0	0	0	264.8	0	382.7	16.4	0	0	0	0	663.9
HOV	0	0	0	0	0	0	0	0	0	0	0	0	175	1692.8	1867.8
Ramps	0	49.3	25.9	185	133.5	197.8	271.3	0	0	405	0	0	0	0	1267.8
Centroid Connector	0	0	0	0	0	0	1970.5	0	0	0	0	0	0	0	1970.5
TOTAL	0	49.3	25.9	185	133.5	197.8	3716.5	7279.9	3755	1129.6	1626.4	4808	6436.8	3538.9	32882.6

Night-Time Period VMT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	0	0	20396.6	20396.6
Freeway	0	0	0	0	0	0	0	0	0	0	0	2731.3	132776.2	607864.2	743371.7
Major	0	0	0	0	0	0	3580.3	93070.9	63939.2	819.9	0	0	0	0	161410.3
Primary	0	0	0	0	0	0	11675.9	69452.5	24078.3	0	0	0	0	0	105206.7
Secondary	0	0	0	0	0	0	433.6	7845.2	0	0	0	0	0	0	8278.8
Local	0	0	0	0	0	0	562.3	0	0	0	0	0	0	0	562.3
Smart Street	0	0	0	0	0	0	3419.6	0	8381.1	402.1	0	0	0	0	12202.8
HOV	0	0	0	0	0	0	0	0	0	0	0	0	0	81669.9	81669.9
Ramps	0	0	403.2	1191.5	1478.9	4778.3	12080.9	0	0	7861.9	0	0	0	0	27794.7
Centroid Connector	0	0	0	0	0	0	35768.6	0	0	0	0	0	0	0	35768.6
TOTAL	0	0	403.2	1191.5	1478.9	4778.3	67521.2	170368.6	96398.6	9083.9	0	2731.3	132776.2	709930.7	1196662.4

Night-Time Period VHT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	0	0	313.7	313.7
Freeway	0	0	0	0	0	0	0	0	0	0	0	43.1	2051.1	9351	11445.2
Major	0	0	0	0	0	0	119	2657	1603.2	18	0	0	0	0	4397.2
Primary	0	0	0	0	0	0	389	1981.5	602.4	0	0	0	0	0	2972.9
Secondary	0	0	0	0	0	0	14.4	225.5	0	0	0	0	0	0	239.9
Local	0	0	0	0	0	0	18.7	0	0	0	0	0	0	0	18.7
Smart Street	0	0	0	0	0	0	107.2	0	199.8	9.3	0	0	0	0	316.3
HOV	0	0	0	0	0	0	0	0	0	0	0	0	0	1257.6	1257.6
Ramps	0	0	13.4	39.7	49.3	159.3	402.7	0	0	174.7	0	0	0	0	839.1
Centroid Connector	0	0	0	0	0	0	1192.3	0	0	0	0	0	0	0	1192.3
TOTAL	0	0	13.4	39.7	49.3	159.3	2243.3	4864	2405.4	202	0	43.1	2051.1	10922.3	22992.9

Mid-Day Period VMT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	0	0	51571.2	51571.2
Freeway	0	0	0	0	0	0	0	9074.7	0	203694.4	396425.7	298500.5	199483.7	0	1107179
Major	0	0	0	0	0	0	4217.3	154051.2	83905	840.6	0	0	0	0	243014.1
Primary	0	0	0	0	0	0	26463.5	126185.3	35471.7	0	0	0	0	0	188120.5
Secondary	0	0	0	0	0	0	3845.1	19266.6	0	0	0	0	0	0	23111.7
Local	0	0	0	0	0	0	1247.4	0	0	0	0	0	0	0	1247.4
Smart Street	0	0	0	0	0	0	25858.2	0	50096	2223.2	0	0	0	0	78177.4
HOV Lanes	0	0	0	0	0	0	0	0	0	0	0	0	42755	113026.4	155781.4
Ramps	0	526	3342.8	3125.6	6710.1	7476.1	6696.1	0	0	22240.1	0	0	0	0	50116.8
Centroid Connector	0	0	0	0	0	0	63727.3	0	0	0	0	0	0	0	63727.3
TOTAL	0	526	3342.8	3125.6	6710.1	7476.1	132054.9	308577.8	169472.7	228998.3	396425.7	298500.5	242238.7	164597.6	1962046.8

Mid-Day Period VHT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	0	0	793	793
Freeway	0	0	0	0	0	0	0	143.3	0	3138.8	6108.5	4589.1	3065.9	0	17045.6
Major	0	0	0	0	0	0	119.7	4396.8	2103.2	18.2	0	0	0	0	6637.9
Primary	0	0	0	0	0	0	874.3	3585.7	887.4	0	0	0	0	0	5347.4
Secondary	0	0	0	0	0	0	0	115.1	551.7	0	0	0	0	0	666.8
Local	0	0	0	0	0	0	0	41.6	0	0	0	0	0	0	41.6
Smart Street	0	0	0	0	0	0	810.4	0	1194	51.6	0	0	0	0	2056
HOV Lanes	0	0	0	0	0	0	0	0	0	0	0	0	658.2	1740.7	2398.9
Ramps	0	17.5	111.4	104.1	223.7	249.2	223.2	0	0	493.2	0	0	0	0	1422.3
Centroid Connector	0	0	0	0	0	0	2124.2	0	0	0	0	0	0	0	2124.2
TOTAL	0	17.5	111.4	104.1	223.7	249.2	4308.5	8677.5	4184.6	3701.8	6108.5	4589.1	3724.1	2533.7	38533.7

Night-Time Period VMT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	0	0	24916.8	24916.8
Freeway	0	0	0	0	0	0	0	0	0	0	7931.2	293473	569323.7	870727.9	
Major	0	0	0	0	0	0	45.4	111349	59092.9	438.1	0	0	0	0	170925.4
Primary	0	0	0	0	0	0	11527.6	71084.6	22670.3	0	0	0	0	0	105282.5
Secondary	0	0	0	0	0	0	455	10786.2	0	0	0	0	0	0	11241.2
Local	0	0	0	0	0	0	583	0	0	0	0	0	0	0	583
Smart Street	0	0	0	0	0	0	9988.6	0	24735.4	1196.6	0	0	0	0	35920.6
HOV Lanes	0	0	0	0	0	0	0	0	0	0	0	0	0	108302.4	108302.4
Ramps	0	0	1175.5	502.9	2203.8	5482.5	12399.6	0	0	8047.3	0	0	0	0	29811.6
Centroid Connector	0	0	0	0	0	0	38591.3	0	0	0	0	0	0	0	38591.3
TOTAL	0	0	1175.5	502.9	2203.8	5482.5	73590.5	193219.8	106498.6	9682	0	7931.2	293473	702542.9	1396302.7

Night-Time Period VHT

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
Toll Road	0	0	0	0	0	0	0	0	0	0	0	0	0	383.1	383.1
Freeway	0	0	0	0	0	0	0	0	0	0	125.3	4527.4	8753.2	13405.9	
Major	0	0	0	0	0	0	1.5	3176.8	1481.5	9.5	0	0	0	0	4669.3
Primary	0	0	0	0	0	0	383.6	2029.6	567.3	0	0	0	0	0	2980.5
Secondary	0	0	0	0	0	0	15.1	309.7	0	0	0	0	0	0	324.8
Local	0	0	0	0	0	0	19.5	0	0	0	0	0	0	0	19.5
Smart Street	0	0	0	0	0	0	313.1	0	589.5	27.8	0	0	0	0	930.4
HOV Lanes	0	0	0	0	0	0	0	0	0	0	0	0	0	1667.6	1667.6
Ramps	0	0	39.2	16.8	73.5	182.8	413.3	0	0	178.6	0	0	0	0	904.2
Centroid Connector	0	0	0	0	0	0	1286.4	0	0	0	0	0	0	0	1286.4
TOTAL	0	0	39.2	16.8	73.5	182.8	2432.5	5516.1	2638.3	215.9	0	125.3	4527.4	10803.9	26571.7

C. Emissions Modeling and Calculations

Existing廊道.ec

Title : Existing
 Version : CT-EMFAC 2.6
 Run Date : 11 October 2012 10:24 AM
 Scen Year : 2011
 Season : Annual
 Temperature : 68F
 Relative Humidity : 59%
 Area : Orange County

Peak User Input :

				Total VMT	Volume (vph)						Road Length(mi)					
					5	10	15	20	by Speed(mph)	25	30	35	40	45	50	
55	60	65	(mph) 70	>75	.1	.6	.6	.4	.3	3.2	13.8	7.2	6.8	11.5		
22.5	15.5	12.4	% 5.1													

Offpeak User Input:

				Total VMT	Volume (vph)						Road Length(mi)				
					5	10	15	20	by Speed(mph)	25	30	35	40	45	50
55	60	65	(mph) 70	>75	.1			.3	.2	.5	6				
0.4	19.6	22.7	% 49												1.2

=====

Running Exhaust Emissions (grams)

Pollutant Name	: TOG_exh	VMT by Speed
speed(mph)	Emission Factor(grams/mile)	VMT by Speed
VMT-Speed	Di stri bution (%)	Emissi ons by Speed
5	0. 05	0. 598000
		1, 020. 946862
10	0. 34	0. 392000
		4, 749. 938088
15	0. 29	0. 265000
		2, 714. 557710
20	0. 35	0. 193000
		2, 402. 811593
25	0. 25	0. 153000
		1, 356. 950421
30	1. 79	0. 127000
		8, 128. 061341
35	9. 72	0. 110000
		38, 281. 938420
40	3. 43	0. 100000
		12, 292. 336800
45	3. 24	0. 096000
		11, 145. 052032
50		0. 097000
		218, 818. 84

Existing廊道生态			
55	6. 11	21, 225. 426995	391, 629. 83
60	10. 94	0. 104000	
65	17. 65	40, 729. 501800	631, 847. 40
70	17. 79	0. 116000	
75	28. 07	73, 294. 297820	637, 002. 88
	0. 00	0. 138000	
		87, 906. 397578	
		0. 154000	1, 005, 122. 47
		154, 788. 860226	
		0. 180000	0. 00
		0. 000000	
<hr/> Total		460, 037. 077686	3, 580, 844. 00
	100. 00		

Pollutant Name : SO2

VMT-Speed	Speed(mph)	Emission Factor(grams/mile)	Emissions by Speed	VMT by Speed
5	0. 05	0. 011000	18. 779959	1, 707. 27
10	0. 34	0. 009000	109. 054701	12, 117. 19
15	0. 29	0. 007000	71. 705298	10, 243. 61
20	0. 35	0. 006000	74. 698806	12, 449. 80
25	0. 25	0. 005000	44. 344785	8, 868. 96
30	1. 79	0. 004000	256. 001932	64, 000. 48
35	9. 72	0. 004000	1, 392. 070488	348, 017. 62
40	3. 43	0. 004000	491. 693472	122, 923. 37
45	3. 24	0. 004000	464. 377168	116, 094. 29
50	6. 11	0. 004000	875. 275340	218, 818. 84
55	10. 94	0. 004000	1, 566. 519300	391, 629. 83
60	17. 65	0. 004000	2, 527. 389580	631, 847. 40
65	17. 79	0. 005000	3, 185. 014405	637, 002. 88
70	28. 07	0. 005000	5, 025. 612345	1, 005, 122. 47
75	0. 00	0. 005000	0. 000000	0. 00
<hr/> Total		16, 102. 537579	3, 580, 844. 00	
	100. 00			

Pollutant Name : Diesel_PM

VMT-Speed	Speed(mph)	Emission Factor(grams/mile)	Emissions by Speed	VMT by Speed
5	0. 05	0. 033005	56. 348413	1, 707. 27

		Existing廊道生态	
10	0.34	0.023555 285.420387	12,117.19
15	0.29	0.016660 170.658609	10,243.61
20	0.35	0.012460 155.124520	12,449.80
25	0.25	0.010465 92.813635	8,868.96
30	1.79	0.008995 575.684345	64,000.48
35	9.72	0.007980 2,777.180624	348,017.62
40	3.43	0.007385 907.789073	122,923.37
45	3.24	0.007210 837.039845	116,094.29
50	6.11	0.007385 1,615.977096	218,818.84
55	10.94	0.007945 3,111.498960	391,629.83
60	17.65	0.008820 5,572.894024	631,847.40
65	17.79	0.010080 6,420.989040	637,002.88
70	28.07	0.011655 11,714.702376	1,005,122.47
75	0.00	0.013615 0.000000	0.00
<hr/>			
Total	100.00	34,294.120948	3,580,844.00

Pollutant Name : PM2.5

VMT-Speed	Speed(mph) Emission Factor(grams/mile) VMT-Speed Distribution (%)	Emissions by Speed	VMT by Speed
5	0.05	0.100000 170.726900	1,707.27
10	0.34	0.067000 811.851663	12,117.19
15	0.29	0.047000 481.449858	10,243.61
20	0.35	0.034000 423.293234	12,449.80
25	0.25	0.027000 239.461839	8,868.96
30	1.79	0.022000 1,408.010626	64,000.48
35	9.72	0.019000 6,612.334818	348,017.62
40	3.43	0.017000 2,089.697256	122,923.37
45	3.24	0.017000 1,973.602964	116,094.29
50	6.11	0.017000 3,719.920195	218,818.84
55	10.94	0.018000 7,049.336850	391,629.83
60	17.65	0.019000 12,005.100505	631,847.40
65	0.00	0.022000 0.000000	637,002.88

		Existing廊道.ec	
17.79	14,014.063382		
70	0.024000	1,005,122.47	
28.07	24,122.939256		
75	0.026000	0.00	
0.00	0.000000		
<hr/> Total			3,580,844.00
100.00	75,121.789346		

Pollutant Name : PM10

speed(mph) VMT-Speed	Emission Factor(grams/mile) Di stribution (%)	Emissions by Speed	VMT by Speed
5	0.05	0.108000 184.385052	1,707.27
10	0.34	0.073000 884.554797	12,117.19
15	0.29	0.050000 512.180700	10,243.61
20	0.35	0.037000 460.642637	12,449.80
25	0.25	0.029000 257.199753	8,868.96
30	1.79	0.024000 1,536.011592	64,000.48
35	9.72	0.021000 7,308.370062	348,017.62
40	3.43	0.019000 2,335.543992	122,923.37
45	3.24	0.018000 2,089.697256	116,094.29
50	6.11	0.018000 3,938.739030	218,818.84
55	10.94	0.019000 7,440.966675	391,629.83
60	17.65	0.021000 13,268.795295	631,847.40
65	17.79	0.024000 15,288.069144	637,002.88
70	28.07	0.026000 26,133.184194	1,005,122.47
75	0.00	0.028000 0.000000	0.00
<hr/> Total			3,580,844.00
100.00	81,638.340179		

Pollutant Name : NOX

speed(mph) VMT-Speed	Emission Factor(grams/mile) Di stribution (%)	Emissions by Speed	VMT by Speed
5	0.05	0.984000 1,679.952696	1,707.27
10	0.34	0.785000 9,511.993365	12,117.19
15	0.29	0.654000 6,699.323556	10,243.61
20	0.35	0.583000 7,258.233983	12,449.80

		Existing廊道.ec	
25	0.25	0.545000 4,833.581565	8,868.96
30	1.79	0.520000 33,280.251160	64,000.48
35	9.72	0.506000 176,096.916732	348,017.62
40	3.43	0.503000 61,830.454104	122,923.37
45	3.24	0.510000 59,208.088920	116,094.29
50	6.11	0.528000 115,536.344880	218,818.84
55	10.94	0.560000 219,312.702000	391,629.83
60	17.65	0.609000 384,795.063555	631,847.40
65	17.79	0.681000 433,798.961961	637,002.88
70	28.07	0.763000 766,908.443847	1,005,122.47
75	0.00	0.886000 0.000000	0.00
<hr/>			
Total		100.00 2,280,750.312324	3,580,844.00

Pollutant Name : FORMALDEHYDE

VMT-Speed	Speed(mph)	Emission Factor(grams/mile)	VMT by Speed
VMT-Speed	Distribution (%)	Emissions by Speed	
5	0.05	0.027154 46.359182	1,707.27
10	0.34	0.016612 201.290744	12,117.19
15	0.29	0.009831 100.704969	10,243.61
20	0.35	0.006515 81.110454	12,449.80
25	0.25	0.005255 46.606369	8,868.96
30	1.79	0.004373 279.874112	64,000.48
35	9.72	0.003758 1,307.850223	348,017.62
40	3.43	0.003389 416.587294	122,923.37
45	3.24	0.003215 373.243149	116,094.29
50	6.11	0.003236 708.097750	218,818.84
55	10.94	0.003460 1,355.039195	391,629.83
60	17.65	0.003900 2,464.204841	631,847.40
65	17.79	0.004613 2,938.494290	637,002.88
70	28.07	0.005401 5,428.666455	1,005,122.47
75	0.00	0.006535 0.000000	0.00
<hr/>			

Total		Existing廊带.ec	3, 580, 844. 00
	100. 00	15, 748. 129027	

Pollutant Name : CO2

VMT-Speed	Emission Factor(grams/mile)	Emissions by Speed	VMT by Speed
5	1, 180. 663000	1, 180. 663000	1, 707. 27
10	2, 015, 709. 339347	2, 015, 709. 339347	12, 117. 19
15	895. 979000	895. 979000	10, 243. 61
20	10, 856, 746. 883031	10, 856, 746. 883031	12, 449. 80
25	706. 556000	706. 556000	8, 868. 96
30	7, 237, 686. 933384	7, 237, 686. 933384	64, 000. 48
35	579. 055000	579. 055000	348, 017. 62
40	7, 209, 119. 518055	7, 209, 119. 518055	122, 923. 37
45	494. 408000	494. 408000	116, 094. 29
50	4, 384, 883. 292456	4, 384, 883. 292456	218, 818. 84
55	437. 635000	437. 635000	391, 629. 83
60	28, 008, 851. 377705	28, 008, 851. 377705	631, 847. 40
65	401. 195000	401. 195000	637, 002. 88
70	139, 622, 929. 858290	139, 622, 929. 858290	1, 005, 122. 47
75	380. 615000	380. 615000	0. 00
80	46, 786, 477. 711320	46, 786, 477. 711320	
85	373. 519000	373. 519000	
90	43, 363, 423. 853548	43, 363, 423. 853548	
95	379. 146000	379. 146000	
100	82, 964, 286. 014910	82, 964, 286. 014910	
105	398. 200000	398. 200000	
110	155, 946, 996. 315000	155, 946, 996. 315000	
115	432. 985000	432. 985000	
120	273, 580, 444. 324075	273, 580, 444. 324075	
125	487. 889000	487. 889000	
130	310, 786, 698. 608209	310, 786, 698. 608209	
135	494. 160000	494. 160000	
140	496, 691, 319. 281040	496, 691, 319. 281040	
145	504. 116000	504. 116000	
150	0. 000000	0. 000000	
<hr/> Total		1, 609, 455, 573. 310370	3, 580, 844. 00
	100. 00		

Pollutant Name : CO

VMT-Speed	Emission Factor(grams/mile)	Emissions by Speed	VMT by Speed
5	5. 098000	5. 098000	1, 707. 27
10	8, 703. 657362	8, 703. 657362	12, 117. 19
15	4. 254000	4. 254000	10, 243. 61
20	51, 546. 522006	51, 546. 522006	12, 449. 80
25	3. 652000	3. 652000	8, 868. 96
30	37, 409. 678328	37, 409. 678328	64, 000. 48
35	3. 210000	3. 210000	348, 017. 62
40	39, 963. 861210	39, 963. 861210	
45	2. 881000	2. 881000	
50	25, 551. 465117	25, 551. 465117	
55	2. 627000	2. 627000	
60	168, 129. 268841	168, 129. 268841	
65	2. 433000	2. 433000	
70	846, 726. 874326	846, 726. 874326	

		Existing廊带.ec	
40	3.43	2.289000 281,371.589352	122,923.37
45	3.24	2.193000 254,594.782356	116,094.29
50	6.11	2.149000 470,241.676415	218,818.84
55	10.94	2.166000 848,270.200950	391,629.83
60	17.65	2.266000 1,431,766.197070	631,847.40
65	17.79	2.489000 1,585,500.170809	637,002.88
70	28.07	2.802000 2,816,353.158138	1,005,122.47
75	0.00	3.345000 0.000000	0.00
<hr/>			
Total	100.00	8,866,129.102280	3,580,844.00

Pollutant Name : BUTADIENE

speed(mph) VMT-Speed	Emission Factor(grams/mile) Distribution (%)	Emissions by Speed	VMT by Speed
5	0.05	0.002887 4.928886	1,707.27
10	0.34	0.001940 23.507347	12,117.19
15	0.29	0.001364 13.972289	10,243.61
20	0.35	0.001016 12.648998	12,449.80
25	0.25	0.000806 7.148379	8,868.96
30	1.79	0.000674 43.136326	64,000.48
35	9.72	0.000589 204.982379	348,017.62
40	3.43	0.000545 66.993236	122,923.37
45	3.24	0.000529 61.413880	116,094.29
50	6.11	0.000540 118.162171	218,818.84
55	10.94	0.000584 228.711818	391,629.83
60	17.65	0.000662 418.282975	631,847.40
65	17.79	0.000793 505.143285	637,002.88
70	28.07	0.000911 915.666569	1,005,122.47
75	0.00	0.001099 0.000000	0.00
<hr/>			
Total	100.00	2,624.698538	3,580,844.00

Pollutant Name : BENZENE

VMT-Speed	speed(mph)	Emission Factor(grams/mile)	Existing廊道排放	VMT by Speed
		分布 (%)	排放量 by Speed	
	5	0. 05	0. 014123 24. 111760	1, 707. 27
	10	0. 34	0. 009348 113. 271483	12, 117. 19
	15	0. 29	0. 006413 65. 692297	10, 243. 61
	20	0. 35	0. 004703 58. 551414	12, 449. 80
	25	0. 25	0. 003734 33. 116685	8, 868. 96
	30	1. 79	0. 003118 199. 553506	64, 000. 48
	35	9. 72	0. 002713 944. 171808	348, 017. 62
	40	3. 43	0. 002501 307. 431343	122, 923. 37
	45	3. 24	0. 002415 280. 367715	116, 094. 29
	50	6. 11	0. 002460 538. 294334	218, 818. 84
	55	10. 94	0. 002648 1, 037. 035777	391, 629. 83
	60	17. 65	0. 002995 1, 892. 382948	631, 847. 40
	65	17. 79	0. 003577 2, 278. 559305	637, 002. 88
	70	28. 07	0. 004096 4, 116. 981633	1, 005, 122. 47
	75	0. 00	0. 004916 0. 000000	0. 00
-----	Total	100. 00	11, 889. 522009	3, 580, 844. 00

Pollutant Name : ACROLEIN

VMT-Speed	speed(mph)	Emission Factor(grams/mile)	VMT by Speed
		分布 (%)	
	5	0. 05	0. 000622 1. 061921
	10	0. 34	0. 000423 5. 125571
	15	0. 29	0. 000303 3. 103815
	20	0. 35	0. 000228 2. 838555
	25	0. 25	0. 000181 1. 605281
	30	1. 79	0. 000151 9. 664073
	35	9. 72	0. 000132 45. 938326
	40	3. 43	0. 000122 14. 996651
	45	3. 24	0. 000119 13. 815221
	50	6. 11	0. 000121 26. 477079

		Existing廊道.ec	
55	10. 94	0. 000131 51. 303507	391, 629. 83
60	17. 65	0. 000148 93. 513414	631, 847. 40
65	17. 79	0. 000177 112. 749510	637, 002. 88
70	28. 07	0. 000203 204. 039861	1, 005, 122. 47
75	0. 00	0. 000243 0. 000000	0. 00
<hr/>			
Total	100. 00	586. 232786	3, 580, 844. 00

Pollutant Name : ACETALDEHYDE

VMT-Speed	speed(mph)	Emission Factor(grams/mile)	Emissions by Speed	VMT by Speed
	5	0. 011372 19. 415063		1, 707. 27
	10	0. 006811 82. 530174		12, 117. 19
	15	0. 003848 39. 417427		10, 243. 61
	20	0. 002457 30. 589161		12, 449. 80
	25	0. 001995 17. 693569		8, 868. 96
	30	0. 001660 106. 240802		64, 000. 48
	35	0. 001421 494. 533041		348, 017. 62
	40	0. 001271 156. 235601		122, 923. 37
	45	0. 001199 139. 197056		116, 094. 29
	50	0. 001202 263. 020240		218, 818. 84
	55	0. 001284 502. 852695		391, 629. 83
	60	0. 001447 914. 283181		631, 847. 40
	65	0. 001707 1, 087. 363918		637, 002. 88
	70	0. 002024 2, 034. 367877		1, 005, 122. 47
	75	0. 002467 0. 000000		0. 00
<hr/>				
Total	100. 00	5, 887. 739804	3, 580, 844. 00	

Idling Emissions (grams) (Currently NOT Available)

Existing_corridor.ec

Evaporative Running Loss Emissions (grams)

Pollutant Name : TOG_Ios

Emissions	Emission Factor(grams/min)	total running time(hrs)
149,027.804517	0.037000	67,129.64

Pollutant Name : FORMALDEHYDE

Emissions	Emission Factor(grams/min)	total running time(hrs)
0.000000	0.000000	67,129.64

Pollutant Name : BUTADIENE

Emissions	Emission Factor(grams/min)	total running time(hrs)
12.083336	0.000003	67,129.64

Pollutant Name : BENZENE

Emissions	Emission Factor(grams/min)	total running time(hrs)
1,482.222488	0.000368	67,129.64

Pollutant Name : ACROLEIN

Emissions	Emission Factor(grams/min)	total running time(hrs)
0.000000	0.000000	67,129.64

Pollutant Name : ACETALDEHYDE

Emissions	Emission Factor(grams/min)	total running time(hrs)
0.000000	0.000000	67,129.64

Total Emissions	Existing廊带.ec	
Pollutant Name	Total Emissions (grams)	Total Emissions (Kilograms)
Total Emissions (US Tons)		
TOG 0. 671379109	609, 064. 882203	609. 064882
S02 0. 017750009	16, 102. 537579	16. 102538
Diesel_PM 0. 037802797	34, 294. 120948	34. 294121
PM2. 5 0. 082807598	75, 121. 789346	75. 121789
PM10 0. 089990866	81, 638. 340179	81. 638340
NOX 2. 514096867	2, 280, 750. 312324	2, 280. 750312
FORMALDEHYDE 0. 017359341	15, 748. 129027	15. 748129
C02 1, 774. 121082890	1, 609, 455, 573. 310370	1, 609, 455. 573310
CO 9. 773234394	8, 866, 129. 102280	8, 866. 129102
BUTADIENE 0. 002906554	2, 636. 781873	2. 636782
BENZENE 0. 014739825	13, 371. 744497	13. 371744
ACROLEIN 0. 000646211	586. 232786	0. 586233
ACETALDEHYDE 0. 006490122	5, 887. 739804	5. 887740

END-----

Existing_surrounding_ec

Title : Existing
 Version : CT-EMFAC 2.6
 Run Date : 11 October 2012 05:11 PM
 Scen Year : 2011
 Season : Annual
 Temperature : 68F
 Relative Humidity : 59%
 Area : Orange County

Peak User Input :										Total VMT	Volume (vph)						
Number of Hours										1156505							
55	60	65	70	(mph)	>75	VMT	Di stri bution(%)	by	Speed(mph)	35	40	45	50				
55	60	65	70	%			.1	2.4	6.3	9.6	21.2	37.3	12.4	.3			
					2.7	7.7											
Offpeak User Input:										Total VMT	Volume (vph)						
Number of Hours										729153							
55	60	65	70	(mph)	>75	VMT	Di stri bution(%)	by	Speed(mph)	35	40	45	50				
55	60	65	70	%			6.4							7.5	54	31.7	.4

Running Exhaust Emissions (grams)

Pol lutant Name	: TOG_exh		
speed(mph)	Emissi on Factor(grams/mile)		VMT by Speed
VMT-Speed	Di stri bution (%)	Emissi ons by Speed	
5	0. 00	0. 598000	0. 00
		0. 000000	
10	0. 00	0. 392000	0. 00
		0. 000000	
15	0. 06	0. 265000	1, 156. 51
		306. 473825	
20	1. 47	0. 193000	27, 756. 12
		5, 356. 931160	
25	3. 86	0. 153000	72, 859. 82
		11, 147. 551695	
30	5. 89	0. 127000	111, 024. 48
		14, 100. 108960	
35	15. 90	0. 110000	299, 865. 54
		32, 985. 208850	
40	43. 76	0. 100000	825, 118. 99
		82, 511. 898500	
45	19. 86	0. 096000	374, 548. 12
		35, 956. 619616	
50		0. 097000	6, 386. 13

		Existing surrounding ec	
55	0. 34	619. 454319	
60	0. 00	0. 104000	0. 00
65	0. 00	0. 000000	
70	1. 66	0. 116000	0. 00
75	7. 20	0. 138000	31, 225. 64
		4, 309. 137630	
		0. 154000	135, 716. 68
		20, 900. 368258	
		0. 180000	0. 00
		0. 000000	
Total	100. 00	208, 193. 752813	1, 885, 658. 00

Pollutant Name : S02

VMT-Speed	speed(mph)	Emission Factor(grams/mile)	VMT by Speed
	Distribution (%)	Emissions by Speed	
5	0. 00	0. 011000	0. 00
10	0. 00	0. 009000	0. 00
15	0. 06	0. 007000	1, 156. 51
20	1. 47	8. 095535	27, 756. 12
25	3. 86	0. 006000	72, 859. 82
30	5. 89	166. 536720	
35	15. 90	0. 005000	111, 024. 48
40	43. 76	364. 299075	299, 865. 54
45	19. 86	0. 004000	825, 118. 99
50	0. 34	444. 097920	374, 548. 12
55	0. 00	1, 199. 462140	6, 386. 13
60	0. 00	0. 004000	0. 00
65	1. 66	25. 544508	0. 00
70	7. 20	0. 004000	0. 00
75	0. 00	0. 005000	31, 225. 64
		678. 583385	135, 716. 68
		0. 005000	0. 00
Total	100. 00	7, 841. 415882	1, 885, 658. 00

Pollutant Name : Diesel_PM

VMT-Speed	speed(mph)	Emission Factor(grams/mile)	VMT by Speed
	Distribution (%)	Emissions by Speed	
5	0. 00	0. 033005	0. 00

		Existing surrounding ec	
10	0.00	0.023555 0.000000	0.00
15	0.06	0.016660 19.267373	1,156.51
20	1.47	0.012460 345.841255	27,756.12
25	3.86	0.010465 762.477964	72,859.82
30	5.89	0.008995 998.665198	111,024.48
35	15.90	0.007980 2,392.926969	299,865.54
40	43.76	0.007385 6,093.503704	825,118.99
45	19.86	0.007210 2,700.491952	374,548.12
50	0.34	0.007385 47.161548	6,386.13
55	0.00	0.007945 0.000000	0.00
60	0.00	0.008820 0.000000	0.00
65	1.66	0.010080 314.754401	31,225.64
70	7.20	0.011655 1,581.777870	135,716.68
75	0.00	0.013615 0.000000	0.00
<hr/>			
Total	100.00	15,256.868235	1,885,658.00

Pollutant Name : PM2.5

VMT-Speed	speed(mph)	Emission Factor(grams/mile)	VMT by Speed
	VMT-Speed Distribution (%)	Emissions by Speed	
5	0.00	0.100000 0.000000	0.00
10	0.00	0.067000 0.000000	0.00
15	0.06	0.047000 54.355735	1,156.51
20	1.47	0.034000 943.708080	27,756.12
25	3.86	0.027000 1,967.215005	72,859.82
30	5.89	0.022000 2,442.538560	111,024.48
35	15.90	0.019000 5,697.445165	299,865.54
40	43.76	0.017000 14,027.022745	825,118.99
45	19.86	0.017000 6,367.318057	374,548.12
50	0.34	0.017000 108.564159	6,386.13
55	0.00	0.018000 0.000000	0.00
60	0.00	0.019000 0.000000	0.00
65	65	0.022000 31,225.64	

		Existing surrounding ec	
70	1. 66	686. 963970	
70	7. 20	0. 024000	135, 716. 68
75	0. 00	3, 257. 200248	
		0. 026000	0. 00
		0. 000000	
<hr/> Total			1, 885, 658. 00
	100. 00	35, 552. 331724	

Pollutant Name : PM10

speed(mph)	Emission Factor(grams/mile)	VMT by Speed
VMT-Speed	Distribution (%)	Emissions by Speed
5	0. 108000	0. 00
	0. 000000	
10	0. 073000	0. 00
	0. 000000	
15	0. 050000	1, 156. 51
	57. 825250	
20	0. 037000	27, 756. 12
	1, 026. 976440	
25	0. 029000	72, 859. 82
	2, 112. 934635	
30	0. 024000	111, 024. 48
	2, 664. 587520	
35	0. 021000	299, 865. 54
	6, 297. 176235	
40	0. 019000	825, 118. 99
	15, 677. 260715	
45	0. 018000	374, 548. 12
	6, 741. 866178	
50	0. 018000	6, 386. 13
	114. 950286	
55	0. 019000	0. 00
	0. 000000	
60	0. 021000	0. 00
	0. 000000	
65	0. 024000	31, 225. 64
	749. 415240	
70	0. 026000	135, 716. 68
	3, 528. 633602	
75	0. 028000	0. 00
	0. 000000	
<hr/> Total		1, 885, 658. 00
	100. 00	38, 971. 626101

Pollutant Name : NOX

speed(mph)	Emission Factor(grams/mile)	VMT by Speed
VMT-Speed	Distribution (%)	Emissions by Speed
5	0. 984000	0. 00
	0. 000000	
10	0. 785000	0. 00
	0. 000000	
15	0. 654000	1, 156. 51
	756. 354270	
20	0. 583000	27, 756. 12
	16, 181. 817960	

		Existing surrounding, ec	
25	3.86	0.545000 39,708.599175	72,859.82
30	5.89	0.520000 57,732.729600	111,024.48
35	15.90	0.506000 151,731.960710	299,865.54
40	43.76	0.503000 415,034.849455	825,118.99
45	19.86	0.510000 191,019.541710	374,548.12
50	0.34	0.528000 3,371.875056	6,386.13
55	0.00	0.560000 0.000000	0.00
60	0.00	0.609000 0.000000	0.00
65	1.66	0.681000 21,264.657435	31,225.64
70	7.20	0.763000 103,551.824551	135,716.68
75	0.00	0.886000 0.000000	0.00
<hr/>			
Total	100.00	1,000,354.209922	1,885,658.00

Pollutant Name : FORMALDEHYDE

VMT-Speed	speed(mph)	Emission Factor(grams/mile)	VMT by Speed
VMT-Speed	Distribution (%)	Emissions by Speed	
5	0.00	0.027154 0.000000	0.00
10	0.00	0.016612 0.000000	0.00
15	0.06	0.009831 11.369601	1,156.51
20	1.47	0.006515 180.831122	27,756.12
25	3.86	0.005255 382.878328	72,859.82
30	5.89	0.004373 485.510051	111,024.48
35	15.90	0.003758 1,126.894681	299,865.54
40	43.76	0.003389 2,796.328240	825,118.99
45	19.86	0.003215 1,204.172209	374,548.12
50	0.34	0.003236 20.665507	6,386.13
55	0.00	0.003460 0.000000	0.00
60	0.00	0.003900 0.000000	0.00
65	1.66	0.004613 144.043854	31,225.64
70	7.20	0.005401 733.005772	135,716.68
75	0.00	0.006535 0.000000	0.00
<hr/>			

Total		Existing_surrounding_ec	1, 885, 658. 00
	100. 00	7, 085. 699365	

Pollutant Name : CO2

VMT-Speed	Emission Factor(grams/mile)	VMT by Speed
VMT-Speed Distribution (%)	Emissions by Speed	
5 0. 00	1, 180. 663000 0. 000000	0. 00
10 0. 00	895. 979000 0. 000000	0. 00
15 0. 06	706. 556000 817, 135. 546780	1, 156. 51
20 1. 47	579. 055000 16, 072, 320. 066600	27, 756. 12
25 3. 86	494. 408000 36, 022, 475. 414520	72, 859. 82
30 5. 89	437. 635000 48, 588, 198. 304800	111, 024. 48
35 15. 90	401. 195000 120, 304, 553. 314325	299, 865. 54
40 43. 76	380. 615000 314, 052, 662. 475775	825, 118. 99
45 19. 86	373. 519000 139, 900, 839. 607799	374, 548. 12
50 0. 34	379. 146000 2, 421, 274. 507542	6, 386. 13
55 0. 00	398. 200000 0. 000000	0. 00
60 0. 00	432. 985000 0. 000000	0. 00
65 1. 66	487. 889000 15, 234, 643. 834515	31, 225. 64
70 7. 20	494. 160000 67, 065, 753. 106320	135, 716. 68
75 0. 00	504. 116000 0. 000000	0. 00
<hr/> Total	100. 00	760, 479, 856. 178976
		1, 885, 658. 00

Pollutant Name : CO

VMT-Speed	Emission Factor(grams/mile)	VMT by Speed
VMT-Speed Distribution (%)	Emissions by Speed	
5 0. 00	5. 098000 0. 000000	0. 00
10 0. 00	4. 254000 0. 000000	0. 00
15 0. 06	3. 652000 4, 223. 556260	1, 156. 51
20 1. 47	3. 210000 89, 097. 145200	27, 756. 12
25 3. 86	2. 881000 209, 909. 127015	72, 859. 82
30 5. 89	2. 627000 291, 661. 308960	111, 024. 48
35 15. 90	2. 433000 729, 572. 846655	299, 865. 54

		Existing surrounding ec	
40	43.76	2.289000	825,118.99
45	19.86	1,888,697.356665	374,548.12
50	0.34	2.193000	6,386.13
55	0.00	821,384.029353	0.00
60	0.00	2.149000	0.00
65	1.66	13,723.786923	31,225.64
70	7.20	2.166000	135,716.68
75	0.00	2.266000	0.00
		0.000000	
		3.345000	0.00
		0.000000	
Total	100.00	4,506,267.891500	1,885,658.00

Pollutant Name : BUTADIENE

VMT-Speed	speed(mph)	Emission Factor(grams/mile)	Emissions by Speed	VMT by Speed
VMT-Speed Distribution (%)				
5	0.00	0.002887	0.00	
10	0.00	0.000000	0.00	
15	0.06	0.001940	0.00	
20	1.47	0.001364	1,156.51	
25	3.86	1.577473		
30	5.89	0.001016	27,756.12	
35	15.90	28.200218		
40	43.76	0.000806	72,859.82	
45	19.86	58.725011		
50	0.34	0.000674	111,024.48	
55	0.00	74.830500		
60	0.00	0.000589	299,865.54	
65	1.66	176.620800		
70	7.20	0.000545	825,118.99	
75	0.00	449.689847		
		0.000529	374,548.12	
		198.135956		
		0.000540	6,386.13	
		3.448509		
		0.000584	0.00	
		0.000000		
		0.000662	0.00	
		0.000000		
		0.000793	31,225.64	
		24.761929		
		0.000911	135,716.68	
		123.637893		
		0.001099	0.00	
		0.000000		
Total	100.00	1,139.628134	1,885,658.00	

Pollutant Name : BENZENE

VMT-Speed	speed(mph)	Emission Factor(grams/mile)	Existing surrounding, ec		VMT by Speed
			Distribution (%)	Emissions by Speed	
	5	0. 014123	0. 00	0. 00	
VMT-Speed	10	0. 000000	0. 00	0. 00	
	10	0. 009348	0. 00	0. 00	
	15	0. 006413	7. 416667	1, 156. 51	
	15	0. 006413	7. 416667	1, 156. 51	
	20	0. 004703	130. 537032	27, 756. 12	
	20	0. 004703	130. 537032	27, 756. 12	
	25	0. 003734	272. 058549	72, 859. 82	
	25	0. 003734	272. 058549	72, 859. 82	
	30	0. 003118	346. 174329	111, 024. 48	
	30	0. 003118	346. 174329	111, 024. 48	
	35	0. 002713	813. 535196	299, 865. 54	
	35	0. 002713	813. 535196	299, 865. 54	
	40	0. 002501	2, 063. 622581	825, 118. 99	
	40	0. 002501	2, 063. 622581	825, 118. 99	
	45	0. 002415	904. 533712	374, 548. 12	
	45	0. 002415	904. 533712	374, 548. 12	
	50	0. 002460	15. 709872	6, 386. 13	
	50	0. 002460	15. 709872	6, 386. 13	
	55	0. 002648	0. 000000	0. 00	
	55	0. 002648	0. 000000	0. 00	
	60	0. 002995	0. 000000	0. 00	
	60	0. 002995	0. 000000	0. 00	
	65	0. 003577	111. 694096	31, 225. 64	
	65	0. 003577	111. 694096	31, 225. 64	
	70	0. 004096	555. 895509	135, 716. 68	
	70	0. 004096	555. 895509	135, 716. 68	
	75	0. 004916	0. 000000	0. 00	
	75	0. 004916	0. 000000	0. 00	
<hr/>					
Total	100. 00		5, 221. 177545		1, 885, 658. 00

Pollutant Name : ACROLEIN

VMT-Speed	speed(mph)	Emission Factor(grams/mile)	Existing surrounding, ec		VMT by Speed
			Distribution (%)	Emissions by Speed	
	5	0. 000622	0. 00	0. 00	
VMT-Speed	10	0. 000423	0. 00	0. 00	
	10	0. 000423	0. 00	0. 00	
	15	0. 000303	0. 350421	1, 156. 51	
	15	0. 000303	0. 350421	1, 156. 51	
	20	0. 000228	6. 328395	27, 756. 12	
	20	0. 000228	6. 328395	27, 756. 12	
	25	0. 000181	13. 187627	72, 859. 82	
	25	0. 000181	13. 187627	72, 859. 82	
	30	0. 000151	16. 764696	111, 024. 48	
	30	0. 000151	16. 764696	111, 024. 48	
	35	0. 000132	39. 582251	299, 865. 54	
	35	0. 000132	39. 582251	299, 865. 54	
	40	0. 000122	100. 664516	825, 118. 99	
	40	0. 000122	100. 664516	825, 118. 99	
	45	0. 000119	44. 571226	374, 548. 12	
	45	0. 000119	44. 571226	374, 548. 12	
	50	0. 000121	0. 772721	6, 386. 13	
	50	0. 000121	0. 772721	6, 386. 13	

		Existing surrounding, ec	
55	0.00	0.000131 0.000000	0.00
60	0.00	0.000148 0.000000	0.00
65	1.66	0.000177 5.526937	31,225.64
70	7.20	0.000203 27.550485	135,716.68
75	0.00	0.000243 0.000000	0.00
Total	100.00	255.299277	1,885,658.00

Pollutant Name : ACETALDEHYDE

VMT-Speed	speed(mph)	Emission Factor(grams/mile)	VMT by Speed
		Emissions by Speed	
5	0.00	0.011372 0.000000	0.00
10	0.00	0.006811 0.000000	0.00
15	0.06	0.003848 4.450231	1,156.51
20	1.47	0.002457 68.196787	27,756.12
25	3.86	0.001995 145.355331	72,859.82
30	5.89	0.001660 184.300637	111,024.48
35	15.90	0.001421 426.108925	299,865.54
40	43.76	0.001271 1,048.726230	825,118.99
45	19.86	0.001199 449.083197	374,548.12
50	0.34	0.001202 7.676125	6,386.13
55	0.00	0.001284 0.000000	0.00
60	0.00	0.001447 0.000000	0.00
65	1.66	0.001707 53.302159	31,225.64
70	7.20	0.002024 274.690554	135,716.68
75	0.00	0.002467 0.000000	0.00
Total	100.00	2,661.890176	1,885,658.00

Idling Emissions (grams) (Currently NOT Available)

Existing_surrounding_ec

Evaporative Running Loss Emissions (grams)

Pollutant Name : TOG_Ios

Emissions	Emission Factor(grams/min)	total running time(hrs)
106,883.885671	0.037000	48,145.89

Pollutant Name : FORMALDEHYDE

Emissions	Emission Factor(grams/min)	total running time(hrs)
0.000000	0.000000	48,145.89

Pollutant Name : BUTADIENE

Emissions	Emission Factor(grams/min)	total running time(hrs)
8.666261	0.000003	48,145.89

Pollutant Name : BENZENE

Emissions	Emission Factor(grams/min)	total running time(hrs)
1,063.061349	0.000368	48,145.89

Pollutant Name : ACROLEIN

Emissions	Emission Factor(grams/min)	total running time(hrs)
0.000000	0.000000	48,145.89

Pollutant Name : ACETALDEHYDE

Emissions	Emission Factor(grams/min)	total running time(hrs)
0.000000	0.000000	48,145.89

Total Emissions	Existing_surrounding_ec	
Pollutant Name	Total Emissions (grams)	Total Emissions (Kilograms)
Total Emissions (US Tons)		
TOG	315,077.638484	315,077638
0.347313645		
S02	7,841.415882	7.841416
0.008643681		
Diesel_PM	15,256.868235	15.256868
0.016817818		
PM2.5	35,552.331724	35.552332
0.039189737		
PM10	38,971.626101	38.971626
0.042958864		
NOX	1,000,354.209922	1,000.354210
1.102701761		
FORMALDEHYDE	7,085.699365	7.085699
0.007810647		
C02	760,479.856.178976	760,479.856179
838.285547196		
CO	4,506,267.891500	4,506.267892
4.967310067		
BUTADIENE	1,148.294395	1.148294
0.001265778		
BENZENE	6,284.238894	6.284239
0.006927188		
ACROLEIN	255.299277	0.255299
0.000281419		
ACETALDEHYDE	2,661.890176	2.661890
0.002934232		

END-----

Opening Year_At1廊道.ec

Title : Opening Year
 Version : CT-EMFAC 2.6
 Run Date : 11 October 2012 10:31 AM
 Scen Year : 2022
 Season : Annual
 Temperature : 68F
 Relative Humidity : 59%
 Area : Orange County

Peak User Input :
 Number of Hours : Total VMT Volume (vph) Road Length(mi)
 1871319

	55	60	65	70	>75	VMT	5	10	15	20	by Speed(mph)	25	30	35	40	45	50
55	19.2	13.1	10.8	3.4	%	.1	.7	.7	.5	1.2	5	14.3	8.1	8.4	14.5		

Offpeak User Input:

Number of Hours : Total VMT Volume (vph) Road Length(mi)
 2062452

	55	60	65	70	>75	VMT	5	10	15	20	by Speed(mph)	25	30	35	40	45	50
55	6.8	16.8	22.3	42.4	%	.1	.1	.3	.3	.5	5.6	.2			4.6		

Running Exhaust Emissions (grams)

Polutant Name : TOG_exh

speed(mph)	Emission Factor(grams/mile)	VMT by Speed
VMT-Speed	Distribution (%)	Emissions by Speed
5	0.268000	1,871.32
10	501.513492	
15	0.175000	15,161.69
20	2,653.294875	
25	0.118000	15,161.69
30	1,789.078830	
35	0.087000	15,543.95
40	1,352.323737	
45	0.069000	28,643.18
50	1,976.379696	
	0.058000	103,878.21
	6,024.936180	
	0.051000	383,095.93
	19,537.892379	
	0.047000	155,701.74
	7,317.981921	
	0.046000	157,190.80
	7,230.776616	
50	0.047000	366,214.05

		Openi ng Year_Al t1_cori dor.ec	
55	9. 31	17, 212. 060209	
60	12. 70	0. 050000	499, 539. 98
65	15. 04	24, 976. 999200	
70	16. 83	0. 057000	591, 634. 73
75	23. 85	33, 723. 179325	
	0. 00	0. 068000	662, 029. 25
		45, 017. 988864	
		0. 081000	938, 104. 49
		75, 986. 464014	
		0. 101000	0. 00
		0. 000000	
<hr/>			
Total	100. 00	245, 300. 869338	3, 933, 771. 00

Po l lutant Name : S02

VMT-Speed	Emi ssi on Di stri buti on (%)	Factor(grams/mile)	Emi ssi ons by Speed	VMT by Speed
5	0. 05	0. 011000	20. 584509	1, 871. 32
10	0. 39	0. 009000	136. 455165	15, 161. 69
15	0. 39	0. 007000	106. 131795	15, 161. 69
20	0. 40	0. 006000	93. 263706	15, 543. 95
25	0. 73	0. 005000	143. 215920	28, 643. 18
30	2. 64	0. 004000	415. 512840	103, 878. 21
35	9. 74	0. 004000	1, 532. 383716	383, 095. 93
40	3. 96	0. 004000	622. 806972	155, 701. 74
45	4. 00	0. 004000	628. 763184	157, 190. 80
50	9. 31	0. 004000	1, 464. 856188	366, 214. 05
55	12. 70	0. 004000	1, 998. 159936	499, 539. 98
60	15. 04	0. 004000	2, 366. 538900	591, 634. 73
65	16. 83	0. 005000	3, 310. 146240	662, 029. 25
70	23. 85	0. 005000	4, 690. 522470	938, 104. 49
75	0. 00	0. 005000	0. 000000	0. 00
<hr/>				
Total	100. 00	17, 529. 341541	3, 933, 771. 00	

Po l lutant Name : Di esel _PM

VMT-Speed	Emi ssi on Di stri buti on (%)	Factor(grams/mile)	VMT by Speed
5	0. 05	0. 011470	1, 871. 32

		Opening Year_Al t1_corridor.ec	
10	0.39	0.008843 134.074780	15,161.69
15	0.39	0.006919 104.903699	15,161.69
20	0.40	0.005624 87.419180	15,543.95
25	0.73	0.004847 138.833513	28,643.18
30	2.64	0.004292 445.845277	103,878.21
35	9.74	0.003959 1,516.676783	383,095.93
40	3.96	0.003774 587.618378	155,701.74
45	4.00	0.003737 587.422005	157,190.80
50	9.31	0.003848 1,409.191653	366,214.05
55	12.70	0.004070 2,033.127735	499,539.98
60	15.04	0.004440 2,626.858179	591,634.73
65	16.83	0.004884 3,233.350847	662,029.25
70	23.85	0.005476 5,137.060209	938,104.49
75	0.00	0.006179 0.000000	0.00
<hr/>			
Total	100.00	18,063.846267	3,933,771.00

Pollutant Name : PM2.5

VMT-Speed	speed(mph) VMT-Speed Distribution (%)	Emission Factor(grams/mile) Emissions by Speed	VMT by Speed
5	0.05	0.090000 168.418710	1,871.32
10	0.39	0.060000 909.701100	15,161.69
15	0.39	0.042000 636.790770	15,161.69
20	0.40	0.031000 481.862481	15,543.95
25	0.73	0.024000 687.436416	28,643.18
30	2.64	0.020000 2,077.564200	103,878.21
35	9.74	0.017000 6,512.630793	383,095.93
40	3.96	0.015000 2,335.526145	155,701.74
45	4.00	0.014000 2,200.671144	157,190.80
50	9.31	0.014000 5,126.996658	366,214.05
55	12.70	0.015000 7,493.099760	499,539.98
60	15.04	0.017000 10,057.790325	591,634.73
65	0.00	0.019000 0.000000	662,029.25

Opening Year_Al t1_corridor.ec			
16. 83		12, 578. 555712	
70		0. 020000	938, 104. 49
23. 85		18, 762. 089880	
75		0. 020000	0. 00
0. 00		0. 000000	
<hr/>			
Total	100. 00	70, 029. 134094	3, 933, 771. 00

Pollutant Name : PM10

VMT-Speed	Emission Factor(grams/mile)	Emissions by Speed	VMT by Speed
VMT-Speed	Emission Factor(grams/mile)	Emissions by Speed	VMT by Speed
5	0. 097000	181. 517943	1, 871. 32
10	0. 065000	985. 509525	15, 161. 69
15	0. 045000	682. 275825	15, 161. 69
20	0. 033000	512. 950383	15, 543. 95
25	0. 026000	744. 722784	28, 643. 18
30	0. 021000	2, 181. 442410	103, 878. 21
35	0. 018000	6, 895. 726722	383, 095. 93
40	0. 016000	2, 491. 227888	155, 701. 74
45	0. 016000	2, 515. 052736	157, 190. 80
50	0. 016000	5, 859. 424752	366, 214. 05
55	0. 016000	7, 992. 639744	499, 539. 98
60	0. 018000	10, 649. 425050	591, 634. 73
65	0. 021000	13, 902. 614208	662, 029. 25
70	0. 021000	19, 700. 194374	938, 104. 49
75	0. 022000	0. 000000	0. 00
<hr/>			
Total	100. 00	75, 294. 724344	3, 933, 771. 00

Pollutant Name : NOX

VMT-Speed	Emission Factor(grams/mile)	Emissions by Speed	VMT by Speed
VMT-Speed	Emission Factor(grams/mile)	Emissions by Speed	VMT by Speed
5	0. 418000	782. 211342	1, 871. 32
10	0. 340000	5, 154. 972900	15, 161. 69
15	0. 286000	4, 336. 241910	15, 161. 69
20	0. 252000	3, 917. 075652	15, 543. 95

		Openi ng_Year_Al t1_corri dor.ec	
25	0. 73	0. 232000 6, 645. 218688	28, 643. 18
30	2. 64	0. 219000 22, 749. 327990	103, 878. 21
35	9. 74	0. 211000 80, 833. 241019	383, 095. 93
40	3. 96	0. 208000 32, 385. 962544	155, 701. 74
45	4. 00	0. 210000 33, 010. 067160	157, 190. 80
50	9. 31	0. 217000 79, 468. 448199	366, 214. 05
55	12. 70	0. 231000 115, 393. 736304	499, 539. 98
60	15. 04	0. 253000 149, 683. 585425	591, 634. 73
65	16. 83	0. 286000 189, 340. 364928	662, 029. 25
70	23. 85	0. 328000 307, 698. 274032	938, 104. 49
75	0. 00	0. 390000 0. 000000	0. 00
<hr/>			
Total	100. 00	1, 031, 398. 728093	3, 933, 771. 00

Po l lutant Name : FORMALDEHYDE

VMT-Speed	Emi ssi on Di stri buti on (%)	Factor(grams/mi le)	Emi ssions by Speed	VMT by Speed
5	0. 05	0. 012466 23. 327863		1, 871. 32
10	0. 39	0. 007577 114. 880087		15, 161. 69
15	0. 39	0. 004496 68. 166936		15, 161. 69
20	0. 40	0. 003082 47. 906457		15, 543. 95
25	0. 73	0. 002562 73. 383837		28, 643. 18
30	2. 64	0. 002183 226. 766132		103, 878. 21
35	9. 74	0. 001912 732. 479416		383, 095. 93
40	3. 96	0. 001731 269. 519717		155, 701. 74
45	4. 00	0. 001619 254. 491899		157, 190. 80
50	9. 31	0. 001583 579. 716836		366, 214. 05
55	12. 70	0. 001627 812. 751554		499, 539. 98
60	15. 04	0. 001759 1, 040. 685481		591, 634. 73
65	16. 83	0. 001997 1, 322. 072408		662, 029. 25
70	23. 85	0. 002315 2, 171. 711904		938, 104. 49
75	0. 00	0. 002821 0. 000000		0. 00
<hr/>				

Total	Opening Year_Al t1_corridor.ec	3,933,771.00
100.00	7,737.860528	

Pollutant Name : CO2

VMT-Speed	Emission Factor(grams/mile)	VMT by Speed
VMT-Speed Distribution (%)	Emissions by Speed	
5	1,191.323000	1,871.32
0.05	2,229,345.365037	
10	904.528000	15,161.69
0.39	13,714,168.609680	
15	713.425000	15,161.69
0.39	10,816,725.121125	
20	584.757000	15,543.95
0.40	9,089,434.154907	
25	499.807000	28,643.18
0.73	14,316,063.865488	
30	442.773000	103,878.21
2.64	45,994,466.676330	
35	406.114000	383,095.93
9.74	155,580,620.109906	
40	385.360000	155,701.74
3.96	60,001,223.682480	
45	378.139000	157,190.80
4.00	59,439,970.408644	
50	383.695000	366,214.05
9.31	140,514,498.763665	
55	402.735000	499,539.98
12.70	201,182,235.456240	
60	437.570000	591,634.73
15.04	258,881,606.618250	
65	492.599000	662,029.25
16.83	326,114,945.535552	
70	499.536000	938,104.49
23.85	468,616,966.514784	
75	510.506000	0.00
0.00	0.000000	
<hr/> Total		3,933,771.00
100.00	1,766,492,270.882090	

Pollutant Name : CO

VMT-Speed	Emission Factor(grams/mile)	VMT by Speed
VMT-Speed Distribution (%)	Emissions by Speed	
5	2.291000	1,871.32
0.05	4,287.191829	
10	1.965000	15,161.69
0.39	29,792.711025	
15	1.721000	15,161.69
0.39	26,093.259885	
20	1.538000	15,543.95
0.40	23,906.596638	
25	1.397000	28,643.18
0.73	40,014.528048	
30	1.283000	103,878.21
2.64	133,275.743430	
35	1.191000	383,095.93
9.74	456,267.251439	

	Opening Year_Al t1_corridor.ec	
40	1.118000	155, 701.74
45	1.064000	157, 190.80
50	1.030000	366, 214.05
55	1.019000	499, 539.98
60	1.040000	591, 634.73
65	1.109000	662, 029.25
70	1.279000	938, 104.49
75	1.199, 835.647826	0.00
	1.576000	
	0.000000	
<hr/> Total	100.00	3, 933, 771.00
	4, 490, 520.747876	

Pollutant Name : BUTADIENE

speed(mph) VMT-Speed	Emission Factor(grams/mile) Distribution (%)	Emissions by Speed	VMT by Speed
5	0.001091	0.001091	1, 871.32
10	2.041609	2.041609	15, 161.69
15	0.000730	11.068030	15, 161.69
20	0.000512	7.762783	15, 543.95
25	0.000383	5.953333	28, 643.18
30	0.000307	8.793457	103, 878.21
35	0.000259	26.904456	383, 095.93
40	0.000231	88.495160	155, 701.74
45	0.000216	33.631576	157, 190.80
50	0.000211	33.167258	366, 214.05
55	0.000219	80.200876	499, 539.98
60	0.000242	120.888676	591, 634.73
65	0.000281	166.249358	662, 029.25
70	0.000342	226.414003	938, 104.49
75	0.000415	389.313365	0.00
	0.000533	0.000000	
<hr/> Total	100.00	1, 200.883941	3, 933, 771.00

Pollutant Name : BENZENE

VMT-Speed	speed(mph)	Emission Factor(grams/mile)	Opening Year_Al t1_corridor.ec	VMT by Speed
		Emissions by Speed		
	5	0. 005613		1, 871. 32
	0. 05	10. 503714		
	10	0. 003687		15, 161. 69
	0. 39	55. 901133		
	15	0. 002515		15, 161. 69
	0. 39	38. 131638		
	20	0. 001854		15, 543. 95
	0. 40	28. 818485		
	25	0. 001493		28, 643. 18
	0. 73	42. 764274		
	30	0. 001259		103, 878. 21
	2. 64	130. 782666		
	35	0. 001116		383, 095. 93
	9. 74	427. 535057		
	40	0. 001037		155, 701. 74
	3. 96	161. 462707		
	45	0. 001005		157, 190. 80
	4. 00	157. 976750		
	50	0. 001033		366, 214. 05
	9. 31	378. 299111		
	55	0. 001127		499, 539. 98
	12. 70	562. 981562		
	60	0. 001296		591, 634. 73
	15. 04	766. 758604		
	65	0. 001561		662, 029. 25
	16. 83	1, 033. 427656		
	70	0. 001874		938, 104. 49
	23. 85	1, 758. 007822		
	75	0. 002382		0. 00
	0. 00	0. 000000		
-----	Total			3, 933, 771. 00
		100. 00	5, 553. 351177	

Pollutant Name : ACROLEIN

VMT-Speed	speed(mph)	Emission Factor(grams/mile)	VMT by Speed
		Emissions by Speed	
	5	0. 000232	1, 871. 32
	0. 05	0. 434146	
	10	0. 000157	15, 161. 69
	0. 39	2. 380385	
	15	0. 000113	15, 161. 69
	0. 39	1. 713270	
	20	0. 000085	15, 543. 95
	0. 40	1. 321236	
	25	0. 000068	28, 643. 18
	0. 73	1. 947737	
	30	0. 000057	103, 878. 21
	2. 64	5. 921058	
	35	0. 000051	383, 095. 93
	9. 74	19. 537892	
	40	0. 000048	155, 701. 74
	3. 96	7. 473684	
	45	0. 000047	157, 190. 80
	4. 00	7. 387967	
	50	0. 000049	366, 214. 05
	9. 31	17. 944488	

		Opening Year_Al t1_corridor.ec	
55	12. 70	0. 000054 26. 975159	499, 539. 98
60	15. 04	0. 000063 37. 272988	591, 634. 73
65	16. 83	0. 000077 50. 976252	662, 029. 25
70	23. 85	0. 000094 88. 181822	938, 104. 49
75	0. 00	0. 000120 0. 000000	0. 00
<hr/>			
Total	100. 00	269. 468084	3, 933, 771. 00

Pollutant Name : ACETALDEHYDE

VMT-Speed	Speed(mph)	Emission Factor(grams/mile)	Emissions by Speed	VMT by Speed
	5	0. 005372 10. 052726		1, 871. 32
	10	0. 003207 48. 623524		15, 161. 69
	15	0. 001833 27. 791369		15, 161. 69
	20	0. 001229 19. 103516		15, 543. 95
	25	0. 001033 29. 588409		28, 643. 18
	30	0. 000884 91. 828338		103, 878. 21
	35	0. 000773 296. 133153		383, 095. 93
	40	0. 000695 108. 212711		155, 701. 74
	45	0. 000643 101. 073682		157, 190. 80
	50	0. 000618 226. 320281		366, 214. 05
	55	0. 000623 311. 213410		499, 539. 98
	60	0. 000658 389. 295649		591, 634. 73
	65	0. 000730 483. 281351		662, 029. 25
	70	0. 000836 784. 255357		938, 104. 49
	75	0. 001004 0. 000000		0. 00
<hr/>				
Total	100. 00	2, 926. 773475	3, 933, 771. 00	

Idling Emissions (grams) (Currently NOT Available)

Openi ng Year_Alt1_corri dor.ec

Evaporati ve Runni ng Loss Emi ssi ons (grams)

Pollutant Name : TOG_Ios

Emi ssi ons	Emi ssion Factor(grams/mi n)	total runni ng ti me(hrs)
114,707.964803	0.025000	76,471.98

Pollutant Name : FORMALDEHYDE

Emi ssi ons	Emi ssion Factor(grams/mi n)	total runni ng ti me(hrs)
0.000000	0.000000	76,471.98

Pollutant Name : BUTADIENE

Emi ssi ons	Emi ssion Factor(grams/mi n)	total runni ng ti me(hrs)
9.176637	0.000002	76,471.98

Pollutant Name : BENZENE

Emi ssi ons	Emi ssion Factor(grams/mi n)	total runni ng ti me(hrs)
1,124.138055	0.000245	76,471.98

Pollutant Name : ACROLEIN

Emi ssi ons	Emi ssion Factor(grams/mi n)	total runni ng ti me(hrs)
0.000000	0.000000	76,471.98

Pollutant Name : ACETALDEHYDE

Emi ssi ons	Emi ssion Factor(grams/mi n)	total runni ng ti me(hrs)
0.000000	0.000000	76,471.98

Total Emissions		Opening Year_Al t1_corridor.ec	
Pollutant Name	Total Emissions (grams)	Total Emissions (Kilograms)	
Total Emissions (US Tons)			
TOG	360,008,834141	360,008834	
0.396841810			
S02	17,529,341541	17,529342	
0.019322791			
Diesel_PM	18,063,846267	18,063846	
0.019911982			
PM2.5	70,029,134094	70,029134	
0.077193907			
PM10	75,294,724344	75,294724	
0.082998226			
NOX	1,031,398,728093	1,031,398728	
1.136922484			
FORMALDEHYDE	7,737,860528	7,737861	
0.008529531			
C02	1,766,492,270,882090	1,766,492,270882	
1,947,224410854			
CO	4,490,520,747876	4,490,520748	
4.949951812			
BUTADIENE	1,210,060578	1,210061	
0.001333863			
BENZENE	6,677,489232	6,677489	
0.007360672			
ACROLEIN	269,468084	0.269468	
0.000297038			
ACETALDEHYDE	2,926,773475	2,926773	
0.003226216			

END-----

Opening Year_At1_surrounding.ec

Title :	Opening Year												
Version :	CT-EMFAC 2.6												
Run Date :	11 October 2012 10:34 AM												
Scen Year :	2022												
Season :	Annual												
Temperature :	68F												
Relative Humidity :	59%												
Area :	Orange County												
Peak User Input :													
Number of Hours	Total VMT	Volume (vph)											Road Length(mi)
	1249317												
55 60 65 70 (mph) %	>75	VMT	5	10	15	20	by	Speed(mph)	35	40	45	50	
.7 2.7 6.9			.1	2.8	8.2	9.4		22.6	34.9	11.4	.3		
Offpeak User Input:													
Number of Hours	Total VMT	Volume (vph)											Road Length(mi)
	799454												
55 60 65 70 (mph) %	>75	VMT	5	10	15	20	by	Speed(mph)	35	40	45	50	
7.1								8.2	53.5	30.8	.4		

Running Exhaust Emissions (grams)

Polutant Name	:	TOG_exh	VMT by Speed
speed(mph)	Emission Factor(grams/mile)	VMT-Speed	Emisions by Speed
VMT-Speed	Di stri bution (%)	Emisi ons by Speed	
5	0. 268000 0. 000000		0. 00
10	0. 175000 0. 000000		0. 00
15	0. 118000 0. 06 147. 419406		1, 249. 32
20	0. 087000 1. 71 3, 043. 336212		34, 980. 88
25	0. 069000 5. 00 7, 068. 635586		102, 443. 99
30	0. 058000 5. 73 6, 811. 276284		117, 435. 80
35	0. 051000 16. 98 17, 742. 944370		347, 900. 87
40	0. 047000 42. 16 40, 594. 817581		863, 719. 52
45	0. 046000 18. 97 17, 878. 082620		388, 653. 97
50	0. 047000		6, 945. 77

		Opening Year_Al t1_surrounding_ec	
55	0.34	326,451049	
55	0.00	0.050000	0.00
60	0.43	0.000000	
60	1.65	0.057000	8,745.22
65	6.98	498,477483	
70	0.00	0.068000	33,731.56
70	0.43	2,293,746012	
75	1.65	0.081000	142,964.11
75	6.98	11,580,092667	
75	0.00	0.101000	0.00
		0.000000	
Total	100.00	107,985.279270	2,048,771.00

Pollutant Name : S02

VMT-Speed	speed(mph)	Emission Factor(grams/mile)	Emissions by Speed	VMT by Speed
VMT-Speed	Di stri bution (%)			
5	0.00	0.011000	0.000000	0.00
10	0.00	0.009000	0.000000	0.00
15	0.06	0.007000	8,745219	1,249.32
20	1.71	0.006000	209,885256	34,980.88
25	5.00	0.005000	512,219970	102,443.99
30	5.73	0.004000	469,743192	117,435.80
35	16.98	0.004000	1,391,603480	347,900.87
40	42.16	0.004000	3,454,878092	863,719.52
45	18.97	0.004000	1,554,615880	388,653.97
50	0.34	0.004000	27,783068	6,945.77
55	0.00	0.004000	0.000000	0.00
60	0.43	0.004000	34,980876	8,745.22
65	1.65	0.005000	168,657795	33,731.56
70	6.98	0.005000	714,820535	142,964.11
75	0.00	0.005000	0.000000	0.00
Total	100.00	8,547.933363	2,048,771.00	

Pollutant Name : Diesel_PM

VMT-Speed	speed(mph)	Emission Factor(grams/mile)	Emissions by Speed	VMT by Speed
VMT-Speed	Di stri bution (%)			
5	0.00	0.011470	0.000000	0.00

		Opening Year_Al t1_surrounding_ec	
10	0. 00	0. 008843 0. 000000	0. 00
15	0. 06	0. 006919 8. 644024	1, 249. 32
20	1. 71	0. 005624 196. 732447	34, 980. 88
25	5. 00	0. 004847 496. 546039	102, 443. 99
30	5. 73	0. 004292 504. 034445	117, 435. 80
35	16. 98	0. 003959 1, 377. 339544	347, 900. 87
40	42. 16	0. 003774 3, 259. 677480	863, 719. 52
45	18. 97	0. 003737 1, 452. 399886	388, 653. 97
50	0. 34	0. 003848 26. 727311	6, 945. 77
55	0. 00	0. 004070 0. 000000	0. 00
60	0. 43	0. 004440 38. 828772	8, 745. 22
65	1. 65	0. 004884 164. 744934	33, 731. 56
70	6. 98	0. 005476 782. 871450	142, 964. 11
75	0. 00	0. 006179 0. 000000	0. 00
<hr/>			
Total	100. 00	8, 308. 546333	2, 048, 771. 00

Pollutant Name : PM2. 5

VMT-Speed	Speed(mph)	Emission Factor(grams/mile)	Emissions by Speed	VMT by Speed
5	0. 00	0. 090000 0. 000000		0. 00
10	0. 00	0. 060000 0. 000000		0. 00
15	0. 06	0. 042000 52. 471314		1, 249. 32
20	1. 71	0. 031000 1, 084. 407156		34, 980. 88
25	5. 00	0. 024000 2, 458. 655856		102, 443. 99
30	5. 73	0. 020000 2, 348. 715960		117, 435. 80
35	16. 98	0. 017000 5, 914. 314790		347, 900. 87
40	42. 16	0. 015000 12, 955. 792845		863, 719. 52
45	18. 97	0. 014000 5, 441. 155580		388, 653. 97
50	0. 34	0. 014000 97. 240738		6, 945. 77
55	0. 00	0. 015000 0. 000000		0. 00
60	0. 43	0. 017000 148. 668723		8, 745. 22
65	0. 00	0. 019000		33, 731. 56

		Opening Year_Al t1_surrounding_ec	
70	1. 65	640. 899621	
		0. 020000	142, 964. 11
75	6. 98	2, 859. 282140	
		0. 020000	0. 00
	0. 00	0. 000000	
<hr/>	<hr/>	<hr/>	<hr/>
Total			2, 048, 771. 00
	100. 00	34, 001. 604723	

Pollutant Name : PM10

speed(mph)	Emission Factor(grams/mile)	VMT by Speed
VMT-Speed	Distribution (%)	Emissions by Speed
5	0. 097000	0. 00
	0. 000000	
10	0. 065000	0. 00
	0. 000000	
15	0. 045000	1, 249. 32
	56. 219265	
20	0. 033000	34, 980. 88
	1, 154. 368908	
25	0. 026000	102, 443. 99
	2, 663. 543844	
30	0. 021000	117, 435. 80
	2, 466. 151758	
35	0. 018000	347, 900. 87
	6, 262. 215660	
40	0. 016000	863, 719. 52
	13, 819. 512368	
45	0. 016000	388, 653. 97
	6, 218. 463520	
50	0. 016000	6, 945. 77
	111. 132272	
55	0. 016000	0. 00
	0. 000000	
60	0. 018000	8, 745. 22
	157. 413942	
65	0. 021000	33, 731. 56
	708. 362739	
70	0. 021000	142, 964. 11
	3, 002. 246247	
75	0. 022000	0. 00
	0. 000000	
<hr/>	<hr/>	<hr/>
Total		2, 048, 771. 00
	100. 00	36, 619. 630523

Pollutant Name : NOX

speed(mph)	Emission Factor(grams/mile)	VMT by Speed
VMT-Speed	Distribution (%)	Emissions by Speed
5	0. 418000	0. 00
	0. 000000	
10	0. 340000	0. 00
	0. 000000	
15	0. 286000	1, 249. 32
	357. 304662	
20	0. 252000	34, 980. 88
	8, 815. 180752	

		Openi ng Year_Al t1_surroundi ng. ec	
25	5. 00	0. 232000 23, 767. 006608	102, 443. 99
30	5. 73	0. 219000 25, 718. 439762	117, 435. 80
35	16. 98	0. 211000 73, 407. 083570	347, 900. 87
40	42. 16	0. 208000 179, 653. 660784	863, 719. 52
45	18. 97	0. 210000 81, 617. 333700	388, 653. 97
50	0. 34	0. 217000 1, 507. 231439	6, 945. 77
55	0. 00	0. 231000 0. 000000	0. 00
60	0. 43	0. 253000 2, 212. 540407	8, 745. 22
65	1. 65	0. 286000 9, 647. 225874	33, 731. 56
70	6. 98	0. 328000 46, 892. 227096	142, 964. 11
75	0. 00	0. 390000 0. 000000	0. 00
<hr/>			
Total	100. 00	453, 595. 234654	2, 048, 771. 00

Po l lutant Name : FORMALDEHYDE

VMT-Speed	speed(mph)	Emissi on Factor(grams/mile)	VMT by Speed
VMT-Speed	Di stri buti on (%)	Emissi ons by Speed	
5	0. 00	0. 012466 0. 000000	0. 00
10	0. 00	0. 007577 0. 000000	0. 00
15	0. 06	0. 004496 5. 616929	1, 249. 32
20	1. 71	0. 003082 107. 811060	34, 980. 88
25	5. 00	0. 002562 262. 461513	102, 443. 99
30	5. 73	0. 002183 256. 362347	117, 435. 80
35	16. 98	0. 001912 665. 186463	347, 900. 87
40	42. 16	0. 001731 1, 495. 098494	863, 719. 52
45	18. 97	0. 001619 629. 230777	388, 653. 97
50	0. 34	0. 001583 10. 995149	6, 945. 77
55	0. 00	0. 001627 0. 000000	0. 00
60	0. 43	0. 001759 15. 382840	8, 745. 22
65	1. 65	0. 001997 67. 361923	33, 731. 56
70	6. 98	0. 002315 330. 961908	142, 964. 11
75	0. 00	0. 002821 0. 000000	0. 00
<hr/>			

Opening Year_Al t1_surrounding_ec			
Total	100.00	3,846.469404	2,048,771.00

Pollutant Name : CO2

Opening Year_Al t1_surrounding_ec			
Total	100.00	3,846.469404	2,048,771.00
	VMT-Speed Distribution (%)	Emissions by Speed	
5	0.00	1,191.323000 0.000000	0.00
10	0.00	904.528000 0.000000	0.00
15	0.06	713.425000 891,293.980725	1,249.32
20	1.71	584.757000 20,455,312.107132	34,980.88
25	5.00	499.807000 51,202,225.309158	102,443.99
30	5.73	442.773000 51,997,400.587854	117,435.80
35	16.98	406.114000 141,287,413.919180	347,900.87
40	42.16	385.360000 332,842,955.383280	863,719.52
45	18.97	378.139000 146,965,223.561830	388,653.97
50	0.34	383.695000 2,665,056.069065	6,945.77
55	0.00	402.735000 0.000000	0.00
60	0.43	437.570000 3,826,645.477830	8,745.22
65	1.65	492.599000 16,616,132.231841	33,731.56
70	6.98	499.536000 71,415,718.154352	142,964.11
75	0.00	510.506000 0.000000	0.00
<hr/>			
Total	100.00	840,165,376.782247	2,048,771.00

Pollutant Name : CO

Opening Year_Al t1_surrounding_ec			
Total	100.00	3,846.469404	2,048,771.00
	VMT-Speed Distribution (%)	Emissions by Speed	
5	0.00	2.291000 0.000000	0.00
10	0.00	1.965000 0.000000	0.00
15	0.06	1.721000 2,150.074557	1,249.32
20	1.71	1.538000 53,800.587288	34,980.88
25	5.00	1.397000 143,114.259618	102,443.99
30	5.73	1.283000 150,670.128834	117,435.80
35	16.98	1.191000 414,349.936170	347,900.87

	Opening Year_Al t1_surrounding_ec	
40	1. 118000	863, 719. 52
42. 16	965, 638. 426714	
45	1. 064000	388, 653. 97
18. 97	413, 527. 824080	
50	1. 030000	6, 945. 77
0. 34	7, 154. 140010	
55	1. 019000	0. 00
0. 00	0. 000000	
60	1. 040000	8, 745. 22
0. 43	9, 095. 027760	
65	1. 109000	33, 731. 56
1. 65	37, 408. 298931	
70	1. 279000	142, 964. 11
6. 98	182, 851. 092853	
75	1. 576000	0. 00
0. 00	0. 000000	
Total	100. 00	2, 048, 771. 00
	2, 379, 759. 796815	

Pollutant Name : BUTADIENE

speed(mph) VMT-Speed	Emission Factor(grams/mile) Distribution (%)	Emissions by Speed	VMT by Speed
5	0. 00	0. 001091 0. 000000	0. 00
10	0. 00	0. 000730 0. 000000	0. 00
15	0. 06	0. 000512 0. 639650	1, 249. 32
20	1. 71	0. 000383 13. 397676	34, 980. 88
25	5. 00	0. 000307 31. 450306	102, 443. 99
30	5. 73	0. 000259 30. 415872	117, 435. 80
35	16. 98	0. 000231 80. 365101	347, 900. 87
40	42. 16	0. 000216 186. 563417	863, 719. 52
45	18. 97	0. 000211 82. 005988	388, 653. 97
50	0. 34	0. 000219 1. 521123	6, 945. 77
55	0. 00	0. 000242 0. 000000	0. 00
60	0. 43	0. 000281 2. 457407	8, 745. 22
65	1. 65	0. 000342 11. 536193	33, 731. 56
70	6. 98	0. 000415 59. 330104	142, 964. 11
75	0. 00	0. 000533 0. 000000	0. 00
Total	100. 00	499. 682836	2, 048, 771. 00

Pollutant Name : BENZENE

VMT-Speed	speed(mph)	Emi ssi on Di stri buti on (%)	Openi ng Year_Al t1_surroundi ng. ec Factor(grams/mile)	Emi ssi ons by Speed	VMT by Speed
	5	0. 00	0. 005613	0. 000000	0. 00
	10	0. 00	0. 003687	0. 000000	0. 00
	15	0. 06	0. 002515	3. 142032	1, 249. 32
	20	1. 71	0. 001854	64. 854544	34, 980. 88
	25	5. 00	0. 001493	152. 948883	102, 443. 99
	30	5. 73	0. 001259	147. 851670	117, 435. 80
	35	16. 98	0. 001116	388. 257371	347, 900. 87
	40	42. 16	0. 001037	895. 677145	863, 719. 52
	45	18. 97	0. 001005	390. 597240	388, 653. 97
	50	0. 34	0. 001033	7. 174977	6, 945. 77
	55	0. 00	0. 001127	0. 000000	0. 00
	60	0. 43	0. 001296	11. 333804	8, 745. 22
	65	1. 65	0. 001561	52. 654964	33, 731. 56
	70	6. 98	0. 001874	267. 914737	142, 964. 11
	75	0. 00	0. 002382	0. 000000	0. 00
-----	Total	100. 00	2, 382. 407366		2, 048, 771. 00

Po l lutant Name : ACROLEIN

VMT-Speed	speed(mph)	Emi ssi on Di stri buti on (%)	Openi ng Year_Al t1_surroundi ng. ec Factor(grams/mile)	Emi ssi ons by Speed	VMT by Speed
	5	0. 00	0. 000232	0. 000000	0. 00
	10	0. 00	0. 000157	0. 000000	0. 00
	15	0. 06	0. 000113	0. 141173	1, 249. 32
	20	1. 71	0. 000085	2. 973374	34, 980. 88
	25	5. 00	0. 000068	6. 966192	102, 443. 99
	30	5. 73	0. 000057	6. 693840	117, 435. 80
	35	16. 98	0. 000051	17. 742944	347, 900. 87
	40	42. 16	0. 000048	41. 458537	863, 719. 52
	45	18. 97	0. 000047	18. 266737	388, 653. 97
	50	0. 34	0. 000049	0. 340343	6, 945. 77

	Opening Year_Al t1_surrounding_ec	
55	0. 000054	0. 00
	0. 000000	
60	0. 000063	8, 745. 22
	0. 550949	
65	0. 000077	33, 731. 56
	2. 597330	
70	0. 000094	142, 964. 11
	13. 438626	
75	0. 000120	0. 00
	0. 000000	
Total	100. 00	2, 048, 771. 00
	111. 170045	

Pollutant Name : ACETALDEHYDE

speed(mph)	Emission Factor(grams/mile)	VMT by Speed
VMT-Speed	Distribution (%)	Emissions by Speed
5	0. 005372	0. 00
	0. 000000	
10	0. 003207	0. 00
	0. 000000	
15	0. 001833	1, 249. 32
	2. 289998	
20	0. 001229	34, 980. 88
	42. 991497	
25	0. 001033	102, 443. 99
	105. 824646	
30	0. 000884	117, 435. 80
	103. 813245	
35	0. 000773	347, 900. 87
	268. 927373	
40	0. 000695	863, 719. 52
	600. 285068	
45	0. 000643	388, 653. 97
	249. 904503	
50	0. 000618	6, 945. 77
	4. 292484	
55	0. 000623	0. 00
	0. 000000	
60	0. 000658	8, 745. 22
	5. 754354	
65	0. 000730	33, 731. 56
	24. 624038	
70	0. 000836	142, 964. 11
	119. 517993	
75	0. 001004	0. 00
	0. 000000	
Total	100. 00	2, 048, 771. 00
	1, 528. 225199	

Idling Emissions (grams) (Currently NOT Available)

Opening Year_Al t1_surrounding.ec

Evaporative Running Loss Emissions (grams)

Pollutant Name : TOG_Los

Emissions	Emission Factor(grams/min)	total running time(hrs)
79,290.519327	0.025000	52,860.35

Pollutant Name : FORMALDEHYDE

Emissions	Emission Factor(grams/min)	total running time(hrs)
0.000000	0.000000	52,860.35

Pollutant Name : BUTADIENE

Emissions	Emission Factor(grams/min)	total running time(hrs)
6.343242	0.000002	52,860.35

Pollutant Name : BENZENE

Emissions	Emission Factor(grams/min)	total running time(hrs)
777.047089	0.000245	52,860.35

Pollutant Name : ACROLEIN

Emissions	Emission Factor(grams/min)	total running time(hrs)
0.000000	0.000000	52,860.35

Pollutant Name : ACETALDEHYDE

Emissions	Emission Factor(grams/min)	total running time(hrs)
0.000000	0.000000	52,860.35

Opening Year_At1_surrounding.ec
 Total Emissions

Pollutant Name	Total Emissions (grams)	Total Emissions (Kilograms)
Total Emissions (US Tons)		
TOG	187,275,798.597	187,275.799
0.206436231		
S02	8,547,933.363	8,547.933
0.009422484		
Diesel_PM	8,308,546.333	8,308.546
0.009158605		
PM2.5	34,001,604.723	34,001.605
0.037480353		
PM10	36,619,630.523	36,619.631
0.040366233		
NOX	453,595,234.654	453,595.235
0.500003158		
FORMALDEHYDE	3,846,469.404	3,846.469
0.004240007		
C02	840,165,376,782.247	840,165,376.782
926.123797874		
CO	2,379,759,796.815	2,379,759.797
2.623236141		
BUTADIENE	506,026.078	0.506026
0.000557798		
BENZENE	3,159,454.456	3,159.454
0.003482702		
ACROLEIN	111,170.045	0.111170
0.000122544		
ACETALDEHYDE	1,528,225.199	1.528225
0.001684580		

END-----

Opening Year_Al t2_corrodi r. ec

Title : Opening Year
 Version : CT-EMFAC 2.6
 Run Date : 11 October 2012 10:36 AM
 Scen Year : 2022
 Season : Annual
 Temperature : 68F
 Relative Humidity : 59%
 Area : Orange County

Peak User Input :
 Number of Hours : Total VMT Volume (vph) Road Length(mi)
 1832815

	55	60	65	70	>75	VMT	5	10	15	20	by Speed(mph)	35	40	45	50	
55	16.2	15.6	12.3	3.5		%	.1	.6	.6	.5	1.4	5.8	11.8	6.3	8.7	16.6

Offpeak User Input:
 Number of Hours : Total VMT Volume (vph) Road Length(mi)
 2072454

	55	60	65	70	>75	VMT	5	10	15	20	by Speed(mph)	35	40	45	50
55	4.7	17.6	24.5	42.8		%	.1	.1	.2	.2	.5	5.6	.2	.1	3.4

Running Exhaust Emissions (grams)

Pollutant Name : TOG_exh

speed(mph)	Emission Factor(grams/mile)	VMT by Speed
VMT-Speed	Distribution (%)	Emissions by Speed
5	0.268000	1,832.82
	491.194420	
10	0.175000	13,069.34
	2,287.135200	
15	0.118000	13,069.34
	1,542.182592	
20	0.087000	13,308.98
	1,157.881521	
25	0.069000	29,804.32
	2,056.497942	
30	0.058000	116,665.54
	6,766.601320	
35	0.051000	332,329.59
	16,948.809294	
40	0.047000	119,612.25
	5,621.775891	
45	0.046000	161,527.36
	7,430.258514	
50	0.047000	374,710.73

		Opening Year_Al t2_corrodi r. ec	
55	9. 60	17, 611. 404122	
60	10. 10	0. 050000	394, 321. 37
65	16. 66	19, 716. 068400	
70	18. 77	0. 057000	650, 671. 04
75	24. 36	37, 088. 249508	
	0. 00	0. 068000	733, 187. 48
		0. 081000	951, 158. 84
		77, 043. 865797	
		0. 101000	0. 00
		0. 000000	
<hr/>			
Total	100. 00	245, 618. 672821	3, 905, 269. 00

Pollutant Name : SO2

VMT-Speed	Speed(mph)	Emission Factor(grams/mile)	Emissions by Speed	VMT by Speed
5	0. 05	0. 011000	20. 160965	1, 832. 82
10	0. 33	0. 009000	117. 624096	13, 069. 34
15	0. 33	0. 007000	91. 485408	13, 069. 34
20	0. 34	0. 006000	79. 853898	13, 308. 98
25	0. 34	0. 005000	149. 021590	29, 804. 32
30	0. 76	0. 004000	466. 662160	116, 665. 54
35	2. 99	0. 004000	1, 329. 318376	332, 329. 59
40	8. 51	0. 004000	478. 449012	119, 612. 25
45	3. 06	0. 004000	646. 109436	161, 527. 36
50	4. 14	0. 004000	1, 498. 842904	374, 710. 73
55	9. 60	0. 004000	0. 004000	394, 321. 37
60	10. 10	0. 004000	1, 577. 285472	
65	16. 66	0. 004000	2, 602. 684176	650, 671. 04
70	18. 77	0. 005000	3, 665. 937375	
75	24. 36	0. 005000	4, 755. 794185	733, 187. 48
	0. 00	0. 005000	0. 000000	951, 158. 84
				0. 00
<hr/>				
Total	100. 00	17, 479. 229053	3, 905, 269. 00	

Pollutant Name : Diesel_PM

VMT-Speed	Speed(mph)	Emission Factor(grams/mile)	Emissions by Speed	VMT by Speed
5	0. 05	0. 011470	21. 022388	1, 832. 82

	Opening Year_Al t2_corrodi r. ec	
10	0.008843 115.572209	13,069.34
15	0.006919 90.426791	13,069.34
20	0.005624 74.849720	13,308.98
25	0.004847 144.461529	29,804.32
30	0.004292 500.728498	116,665.54
35	0.003959 1,315.692863	332,329.59
40	0.003774 451.416643	119,612.25
45	0.003737 603.627741	161,527.36
50	0.003848 1,441.886874	374,710.73
55	0.004070 1,604.887968	394,321.37
60	0.004440 2,888.979435	650,671.04
65	0.004884 3,580.887628	733,187.48
70	0.005476 5,208.545791	951,158.84
75	0.006179 0.000000	0.00
<hr/>		
Total	100.00	3,905,269.00
		18,042.986078

Pollutant Name : PM2.5

VMT-Speed	speed(mph)	Emission Factor(grams/mile)	Emissions by Speed	VMT by Speed
5	0.05	0.090000 164.953350		1,832.82
10	0.33	0.060000 784.160640		13,069.34
15	0.33	0.042000 548.912448		13,069.34
20	0.34	0.031000 412.578473		13,308.98
25	0.76	0.024000 715.303632		29,804.32
30	2.99	0.020000 2,333.310800		116,665.54
35	8.51	0.017000 5,649.603098		332,329.59
40	3.06	0.015000 1,794.183795		119,612.25
45	4.14	0.014000 2,261.383026		161,527.36
50	9.60	0.014000 5,245.950164		374,710.73
55	10.10	0.015000 5,914.820520		394,321.37
60	16.66	0.017000 11,061.407748		650,671.04
65		0.019000		733,187.48

Opening Year_Al t2_corridor.ec			
18. 77		13, 930. 562025	
70		0. 020000	951, 158. 84
24. 36		19, 023. 176740	
75		0. 020000	0. 00
0. 00		0. 000000	
Total	100. 00	69, 840. 306459	3, 905, 269. 00

Pollutant Name : PM10

VMT-Speed	Speed(mph)	Emission Factor(grams/mile)	Emissions by Speed	VMT by Speed
	5	0. 097000		1, 832. 82
	10	177. 783055		
	15	0. 065000	849. 507360	13, 069. 34
	20	0. 045000	588. 120480	13, 069. 34
	25	0. 033000	439. 196439	13, 308. 98
	30	0. 026000	774. 912268	29, 804. 32
	35	0. 021000	2, 449. 976340	116, 665. 54
	40	0. 018000	5, 981. 932692	332, 329. 59
	45	0. 016000	1, 913. 796048	119, 612. 25
	50	0. 016000	2, 584. 437744	161, 527. 36
	55	0. 016000	5, 995. 371616	374, 710. 73
	60	0. 016000	6, 309. 141888	394, 321. 37
	65	0. 018000	11, 712. 078792	650, 671. 04
	70	0. 021000	15, 396. 936975	733, 187. 48
	75	0. 021000	19, 974. 335577	951, 158. 84
	0. 00	0. 022000	0. 000000	0. 00
Total	100. 00	75, 147. 527274		3, 905, 269. 00

Pollutant Name : NOX

VMT-Speed	Speed(mph)	Emission Factor(grams/mile)	Emissions by Speed	VMT by Speed
	5	0. 418000		1, 832. 82
	10	766. 116670		
	15	0. 340000	4, 443. 576960	13, 069. 34
	20	0. 286000	3, 737. 832384	13, 069. 34
	0. 34	0. 252000	3, 353. 863716	13, 308. 98

		Openi ng_Year_Al t2_corrodi r. ec	
25	0. 76	0. 232000 6, 914. 601776	29, 804. 32
30	2. 99	0. 219000 25, 549. 753260	116, 665. 54
35	8. 51	0. 211000 70, 121. 544334	332, 329. 59
40	3. 06	0. 208000 24, 879. 348624	119, 612. 25
45	4. 14	0. 210000 33, 920. 745390	161, 527. 36
50	9. 60	0. 217000 81, 312. 227542	374, 710. 73
55	10. 10	0. 231000 91, 088. 236008	394, 321. 37
60	16. 66	0. 253000 164, 619. 774132	650, 671. 04
65	18. 77	0. 286000 209, 691. 617850	733, 187. 48
70	24. 36	0. 328000 311, 980. 098536	951, 158. 84
75	0. 00	0. 390000 0. 000000	0. 00
<hr/>			
Total	100. 00	1, 032, 379. 337182	3, 905, 269. 00

Po l lutant Name : FORMALDEHYDE

VMT-Speed	speed(mph)	Emissi on Factor(grams/mile)	VMT by Speed
VMT-Speed	Di stri buti on (%)	Emissi ons by Speed	
5	0. 05	0. 012466 22. 847872	1, 832. 82
10	0. 33	0. 007577 99. 026419	13, 069. 34
15	0. 33	0. 004496 58. 759771	13, 069. 34
20	0. 34	0. 003082 41. 018286	13, 308. 98
25	0. 76	0. 002562 76. 358663	29, 804. 32
30	2. 99	0. 002183 254. 680874	116, 665. 54
35	8. 51	0. 001912 635. 414184	332, 329. 59
40	3. 06	0. 001731 207. 048810	119, 612. 25
45	4. 14	0. 001619 261. 512794	161, 527. 36
50	9. 60	0. 001583 593. 167079	374, 710. 73
55	10. 10	0. 001627 641. 560866	394, 321. 37
60	16. 66	0. 001759 1, 144. 530366	650, 671. 04
65	18. 77	0. 001997 1, 464. 175388	733, 187. 48
70	24. 36	0. 002315 2, 201. 932708	951, 158. 84
75	0. 00	0. 002821 0. 000000	0. 00
<hr/>			

Total	Opening Year_Al t2_corrodi r. ec	3, 905, 269. 00
100. 00	7, 702. 034079	

Pollutant Name : CO2

speed(mph) VMT-Speed	Emis sion Factor(grams/mile) Di stri buti on (%)	Emis sions by Speed	VMT by Speed
5 0. 05	1, 191. 323000 2, 183, 474. 664245		1, 832. 82
10 0. 33	904. 528000 11, 821, 587. 589632		13, 069. 34
15 0. 33	713. 425000 9, 323, 996. 743200		13, 069. 34
20 0. 34	584. 757000 7, 782, 520. 972131		13, 308. 98
25 0. 76	499. 807000 14, 896, 406. 766626		29, 804. 32
30 2. 99	442. 773000 51, 656, 351. 142420		116, 665. 54
35 8. 51	406. 114000 134, 963, 700. 737716		332, 329. 59
40 3. 06	385. 360000 46, 093, 777. 816080		119, 612. 25
45 4. 14	378. 139000 61, 079, 794. 004901		161, 527. 36
50 9. 60	383. 695000 143, 774, 632. 012570		374, 710. 73
55 10. 10	402. 735000 158, 807, 016. 141480		394, 321. 37
60 16. 66	437. 570000 284, 714, 128. 723080		650, 671. 04
65 18. 77	492. 599000 361, 167, 416. 997525		733, 187. 48
70 24. 36	499. 536000 475, 138, 080. 799632		951, 158. 84
75 0. 00	510. 506000 0. 000000		0. 00
<hr/> Total	<hr/> 100. 00	<hr/> 1, 763, 402, 885. 111240	<hr/> 3, 905, 269. 00

Pollutant Name : CO

speed(mph) VMT-Speed	Emis sion Factor(grams/mile) Di stri buti on (%)	Emis sions by Speed	VMT by Speed
5 0. 05	2. 291000 4, 198. 979165		1, 832. 82
10 0. 33	1. 965000 25, 681. 260960		13, 069. 34
15 0. 33	1. 721000 22, 492. 341024		13, 069. 34
20 0. 34	1. 538000 20, 469. 215854		13, 308. 98
25 0. 76	1. 397000 41, 636. 632246		29, 804. 32
30 2. 99	1. 283000 149, 681. 887820		116, 665. 54
35 8. 51	1. 191000 395, 804. 546454		332, 329. 59

	Openi ng Year	AI t2_corrodi r. ec	
40	3. 06	1. 118000 133, 726. 498854	119, 612. 25
45	4. 14	1. 064000 171, 865. 109976	161, 527. 36
50	9. 60	1. 030000 385, 952. 047780	374, 710. 73
55	10. 10	1. 019000 401, 813. 473992	394, 321. 37
60	16. 66	1. 040000 676, 697. 885760	650, 671. 04
65	18. 77	1. 109000 813, 104. 909775	733, 187. 48
70	24. 36	1. 279000 1, 216, 532. 152523	951, 158. 84
75	0. 00	1. 576000 0. 000000	0. 00
Total	100. 00	4, 459, 656. 942183	3, 905, 269. 00

Pollutant Name : BUTADIENE

speed(mph) VMT-Speed	Emissi on Factor(grams/mile) Di stri buti on (%)	Emissi ons by Speed	VMT by Speed
5	0. 05	0. 001091 1. 999601	1, 832. 82
10	0. 33	0. 000730 9. 540621	13, 069. 34
15	0. 33	0. 000512 6. 691504	13, 069. 34
20	0. 34	0. 000383 5. 097340	13, 308. 98
25	0. 76	0. 000307 9. 149926	29, 804. 32
30	2. 99	0. 000259 30. 216375	116, 665. 54
35	8. 51	0. 000231 76. 768136	332, 329. 59
40	3. 06	0. 000216 25. 836247	119, 612. 25
45	4. 14	0. 000211 34. 082273	161, 527. 36
50	9. 60	0. 000219 82. 061649	374, 710. 73
55	10. 10	0. 000242 95. 425771	394, 321. 37
60	16. 66	0. 000281 182. 838563	650, 671. 04
65	18. 77	0. 000342 250. 750116	733, 187. 48
70	24. 36	0. 000415 394. 730917	951, 158. 84
75	0. 00	0. 000533 0. 000000	0. 00
Total	100. 00	1, 205. 189040	3, 905, 269. 00

Pollutant Name : BENZENE

VMT-Speed	speed(mph)	Emission Factor(grams/mile)	Opening Year_Al t2_corrodi r. ec	VMT by Speed
		Di stri buti on (%)	Emissions by Speed	
	5	0. 05	0. 005613 10. 287591	1, 832. 82
	10	0. 33	0. 003687 48. 186671	13, 069. 34
	15	0. 33	0. 002515 32. 869400	13, 069. 34
	20	0. 34	0. 001854 24. 674854	13, 308. 98
	25	0. 76	0. 001493 44. 497847	29, 804. 32
	30	2. 99	0. 001259 146. 881915	116, 665. 54
	35	8. 51	0. 001116 370. 879827	332, 329. 59
	40	3. 06	0. 001037 124. 037906	119, 612. 25
	45	4. 14	0. 001005 162. 334996	161, 527. 36
	50	9. 60	0. 001033 387. 076180	374, 710. 73
	55	10. 10	0. 001127 444. 400182	394, 321. 37
	60	16. 66	0. 001296 843. 269673	650, 671. 04
	65	18. 77	0. 001561 1, 144. 505648	733, 187. 48
	70	24. 36	0. 001874 1, 782. 471661	951, 158. 84
	75	0. 00	0. 002382 0. 000000	0. 00
-----	Total	100. 00	5, 566. 374351	3, 905, 269. 00

Pollutant Name : ACROLEIN

VMT-Speed	speed(mph)	Emission Factor(grams/mile)	VMT by Speed
		Di stri buti on (%)	
	5	0. 05	0. 000232 0. 425213
	10	0. 33	0. 000157 2. 051887
	15	0. 33	0. 000113 1. 476836
	20	0. 34	0. 000085 1. 131264
	25	0. 76	0. 000068 2. 026694
	30	2. 99	0. 000057 6. 649936
	35	8. 51	0. 000051 16. 948809
	40	3. 06	0. 000048 5. 741388
	45	4. 14	0. 000047 7. 591786
	50	9. 60	0. 000049 18. 360826

	Openi ng_Year	Alt2_corrodi r_ec	
55	0. 000054	394, 321. 37	
10. 10	21. 293354		
60	0. 000063	650, 671. 04	
16. 66	40. 992276		
65	0. 000077	733, 187. 48	
18. 77	56. 455436		
70	0. 000094	951, 158. 84	
24. 36	89. 408931		
75	0. 000120	0. 00	
0. 00	0. 000000		
<hr/> Total	100. 00	270. 554634	3, 905, 269. 00

Pollutant Name : ACETALDEHYDE

speed(mph)	VMT-Speed	Emission Factor(grams/mile)	Emissions by Speed	VMT by Speed
5	0. 05	0. 005372	9. 845882	1, 832. 82
10	0. 33	0. 003207	41. 913386	13, 069. 34
15	0. 33	0. 001833	23. 956108	13, 069. 34
20	0. 34	0. 001229	16. 356740	13, 308. 98
25	0. 76	0. 001033	30. 787860	29, 804. 32
30	2. 99	0. 000884	103. 132337	116, 665. 54
35	8. 51	0. 000773	256. 890776	332, 329. 59
40	3. 06	0. 000695	83. 130516	119, 612. 25
45	4. 14	0. 000643	103. 862092	161, 527. 36
50	9. 60	0. 000618	231. 571229	374, 710. 73
55	10. 10	0. 000623	245. 662212	394, 321. 37
60	16. 66	0. 000658	428. 141547	650, 671. 04
65	18. 77	0. 000730	535. 226857	733, 187. 48
70	24. 36	0. 000836	795. 168788	951, 158. 84
75	0. 00	0. 001004	0. 000000	0. 00
<hr/> Total	100. 00	2, 905. 646330	3, 905, 269. 00	

Idling Emissions (grams) (Currently NOT Available)

Openi ng Year_Alt2_corrodi r. ec

Evaporati ve Runni ng Loss Emi ssi ons (grams)

Pollutant Name : TOG_I os

Emi ssi ons	Emi ssion Factor(grams/mi n)	total runni ng ti me(hrs)
112, 113. 295026	0. 025000	74, 742. 20

Pollutant Name : FORMALDEHYDE

Emi ssi ons	Emi ssion Factor(grams/mi n)	total runni ng ti me(hrs)
	0. 000000	74, 742. 20
0. 000000		

Pollutant Name : BUTADIENE

Emi ssi ons	Emi ssion Factor(grams/mi n)	total runni ng ti me(hrs)
	0. 000002	74, 742. 20
8. 969064		

Pollutant Name : BENZENE

Emi ssi ons	Emi ssion Factor(grams/mi n)	total runni ng ti me(hrs)
	0. 000245	74, 742. 20
1, 098. 710291		

Pollutant Name : ACROLEIN

Emi ssi ons	Emi ssion Factor(grams/mi n)	total runni ng ti me(hrs)
	0. 000000	74, 742. 20
0. 000000		

Pollutant Name : ACETALDEHYDE

Emi ssi ons	Emi ssion Factor(grams/mi n)	total runni ng ti me(hrs)
	0. 000000	74, 742. 20
0. 000000		

Openi ng Year_Al t2_corrodi r. ec

Total Emissions	Total Emissions (grams)	Total Emissions (Kilograms)
Total Emissions (US Tons)		
TOG 0.394331994	357,731,967847	357,731968
S02 0.019267552	17,479,229053	17,479229
Diesel_PM 0.019888988	18,042,986078	18,042986
PM2.5 0.076985760	69,840,306459	69,840306
PM10 0.082835969	75,147,527274	75,147527
NOX 1.138003421	1,032,379,337182	1,032,379337
FORMALDEHYDE 0.008490039	7,702,034079	7,702034
C02 1,943,818945975	1,763,402,885,111240	1,763,402,885111
CO 4.915930290	4,459,656,942183	4,459,656942
BUTADIENE 0.001338380	1,214,158104	1,214158
BENZENE 0.007346998	6,665,084642	6,665085
ACROLEIN 0.000298235	270,554634	0.270555
ACETALDEHYDE 0.003202927	2,905,646330	2,905646

END-----

Opening Year_At2_surrounding_ec

Title :	Opening Year												
Version :	CT-EMFAC 2.6												
Run Date :	11 October 2012 10:38 AM												
Scen Year :	2022												
Season :	Annual												
Temperature :	68F												
Relative Humidity :	59%												
Area :	Orange County												
Peak User Input :													
Number of Hours	Total VMT	Volume (vph)											Road Length(mi)
	1240865												
55 60 65 70 (mph)	>75	VMT	5	10	15	20	by	Speed(mph)	35	40	45	50	
.3 .3.1 6.9 %			.1	2.8	7.8	9.5		22.5	35.2	11.5	.3		
Offpeak User Input:													
Number of Hours	Total VMT	Volume (vph)											Road Length(mi)
	791630												
55 60 65 70 (mph)	>75	VMT	5	10	15	20	by	Speed(mph)	35	40	45	50	
6.7 %								8.2	53.7	31	.4		

Running Exhaust Emissions (grams)

Polutant Name	:	TOG_exh	VMT by Speed
speed(mph)	Emission Factor(grams/mile)	Emissions by Speed	VMT by Speed
VMT-Speed	Distribution (%)		
5	0.00	0.268000 0.000000	0.00
10	0.00	0.175000 0.000000	0.00
15	0.06	0.118000 146.422070	1,240.87
20	1.71	0.087000 3,022.747140	34,744.22
25	4.76	0.069000 6,678.335430	96,787.47
30	5.80	0.058000 6,837.166150	117,882.18
35	16.93	0.051000 17,549.522535	344,108.29
40	42.41	0.047000 40,508.820130	861,889.79
45	19.09	0.046000 17,852.819650	388,104.78
50		0.047000	6,889.12

		Opening Year_Al t2_surrounding_ec	
55	0.34	323,788405	
60	0.00	0.050000	0.00
65	0.18	0.000000	
70	1.89	0.057000	3,722.60
75	6.82	212,187915	
		0.068000	38,466.82
		2,615,743420	
		0.081000	138,658.90
		11,231,370495	
	0.00	0.101000	0.00
		0.000000	
Total	100.00	106,978,923340	2,032,495.00

Pollutant Name : SO2

VMT-Speed	Speed(mph)	Emission Factor(grams/mile)	Emissions by Speed	VMT by Speed
VMT-Speed	Di stri bution (%)			
5	0.00	0.011000	0.000000	0.00
10	0.00	0.009000	0.000000	0.00
15	0.06	0.007000	8,686055	1,240.87
20	1.71	0.006000	208,465320	34,744.22
25	4.76	0.005000	483,937350	96,787.47
30	5.80	0.004000	471,528700	117,882.18
35	16.93	0.004000	1,376,433140	344,108.29
40	42.41	0.004000	3,447,559160	861,889.79
45	19.09	0.004000	1,552,419100	388,104.78
50	0.34	0.004000	27,556460	6,889.12
55	0.00	0.004000	0.000000	0.00
60	0.18	0.004000	14,890380	3,722.60
65	1.89	0.005000	192,334075	38,466.82
70	6.82	0.005000	693,294475	138,658.90
75	0.00	0.005000	0.000000	0.00
Total	100.00	8,477,104215	2,032,495.00	

Pollutant Name : Diesel_PM

VMT-Speed	Speed(mph)	Emission Factor(grams/mile)	Emissions by Speed	VMT by Speed
VMT-Speed	Di stri bution (%)			
5	0.00	0.011470	0.000000	0.00

		Opening Year_Al t2_surrounding_ec	
10	0. 00	0. 008843 0. 000000	0. 00
15	0. 06	0. 006919 8. 585545	1, 240. 87
20	1. 71	0. 005624 195. 401493	34, 744. 22
25	4. 76	0. 004847 469. 128867	96, 787. 47
30	5. 80	0. 004292 505. 950295	117, 882. 18
35	16. 93	0. 003959 1, 362. 324700	344, 108. 29
40	42. 41	0. 003774 3, 252. 772067	861, 889. 79
45	19. 09	0. 003737 1, 450. 347544	388, 104. 78
50	0. 34	0. 003848 26. 509315	6, 889. 12
55	0. 00	0. 004070 0. 000000	0. 00
60	0. 18	0. 004440 16. 528322	3, 722. 60
65	1. 89	0. 004884 187. 871924	38, 466. 82
70	6. 82	0. 005476 759. 296109	138, 658. 90
75	0. 00	0. 006179 0. 000000	0. 00
<hr/>			
Total	100. 00	8, 234. 716182	2, 032, 495. 00

Pollutant Name : PM2. 5

VMT-Speed	Speed(mph)	Emission Factor(grams/mile)	Emissions by Speed	VMT by Speed
5	0. 00	0. 090000 0. 000000		0. 00
10	0. 00	0. 060000 0. 000000		0. 00
15	0. 06	0. 042000 52. 116330		1, 240. 87
20	1. 71	0. 031000 1, 077. 070820		34, 744. 22
25	4. 76	0. 024000 2, 322. 899280		96, 787. 47
30	5. 80	0. 020000 2, 357. 643500		117, 882. 18
35	16. 93	0. 017000 5, 849. 840845		344, 108. 29
40	42. 41	0. 015000 12, 928. 346850		861, 889. 79
45	19. 09	0. 014000 5, 433. 466850		388, 104. 78
50	0. 34	0. 014000 96. 447610		6, 889. 12
55	0. 00	0. 015000 0. 000000		0. 00
60	0. 18	0. 017000 63. 284115		3, 722. 60
65		0. 019000		38, 466. 82

		Opening Year_Al t2_surrounding_ec	
70	1. 89	730. 869485	
		0. 020000	138, 658. 90
75	6. 82	2, 773. 177900	
		0. 020000	0. 00
	0. 00	0. 000000	
<hr/>	<hr/>	<hr/>	<hr/>
Total			2, 032, 495. 00
	100. 00	33, 685. 163585	

Pollutant Name : PM10

speed(mph)	Emission Factor(grams/mile)	VMT by Speed
VMT-Speed	Distribution (%)	Emissions by Speed
5	0. 097000	0. 00
	0. 000000	
10	0. 065000	0. 00
	0. 000000	
15	0. 045000	1, 240. 87
	55. 838925	
20	0. 033000	34, 744. 22
	1, 146. 559260	
25	0. 026000	96, 787. 47
	2, 516. 474220	
30	0. 021000	117, 882. 18
	2, 475. 525675	
35	0. 018000	344, 108. 29
	6, 193. 949130	
40	0. 016000	861, 889. 79
	13, 790. 236640	
45	0. 016000	388, 104. 78
	6, 209. 676400	
50	0. 016000	6, 889. 12
	110. 225840	
55	0. 016000	0. 00
	0. 000000	
60	0. 018000	3, 722. 60
	67. 006710	
65	0. 021000	38, 466. 82
	807. 803115	
70	0. 021000	138, 658. 90
	2, 911. 836795	
75	0. 022000	0. 00
	0. 000000	
<hr/>	<hr/>	<hr/>
Total		2, 032, 495. 00
	100. 00	36, 285. 132710

Pollutant Name : NOX

speed(mph)	Emission Factor(grams/mile)	VMT by Speed
VMT-Speed	Distribution (%)	Emissions by Speed
5	0. 418000	0. 00
	0. 000000	
10	0. 340000	0. 00
	0. 000000	
15	0. 286000	1, 240. 87
	354. 887390	
20	0. 252000	34, 744. 22
	8, 755. 543440	

		Openi ng Year_Al t2_surroundi ng. ec	
25	4. 76	0. 232000 22, 454. 693040	96, 787. 47
30	5. 80	0. 219000 25, 816. 196325	117, 882. 18
35	16. 93	0. 211000 72, 606. 848135	344, 108. 29
40	42. 41	0. 208000 179, 273. 076320	861, 889. 79
45	19. 09	0. 210000 81, 502. 002750	388, 104. 78
50	0. 34	0. 217000 1, 494. 937955	6, 889. 12
55	0. 00	0. 231000 0. 000000	0. 00
60	0. 18	0. 253000 941. 816535	3, 722. 60
65	1. 89	0. 286000 11, 001. 509090	38, 466. 82
70	6. 82	0. 328000 45, 480. 117560	138, 658. 90
75	0. 00	0. 390000 0. 000000	0. 00
<hr/>			
Total	100. 00	449, 681. 628540	2, 032, 495. 00

Po l lutant Name : FORMALDEHYDE

VMT-Speed	Emi ssi on Di stri buti on (%)	Factor(grams/mi le)	Emi ssions by Speed	VMT by Speed
5	0. 00	0. 012466 0. 000000		0. 00
10	0. 00	0. 007577 0. 000000		0. 00
15	0. 06	0. 004496 5. 578929		1, 240. 87
20	1. 71	0. 003082 107. 081686		34, 744. 22
25	4. 76	0. 002562 247. 969498		96, 787. 47
30	5. 80	0. 002183 257. 336788		117, 882. 18
35	16. 93	0. 001912 657. 935041		344, 108. 29
40	42. 41	0. 001731 1, 491. 931226		861, 889. 79
45	19. 09	0. 001619 628. 341631		388, 104. 78
50	0. 34	0. 001583 10. 905469		6, 889. 12
55	0. 00	0. 001627 0. 000000		0. 00
60	0. 18	0. 001759 6. 548045		3, 722. 60
65	1. 89	0. 001997 76. 818230		38, 466. 82
70	6. 82	0. 002315 320. 995342		138, 658. 90
75	0. 00	0. 002821 0. 000000		0. 00
<hr/>				

Opening Year_At2_surrounding_ec			
Total	100.00	3,811.441885	2,032,495.00

Pollutant Name : CO2

VMT-Speed	Emission Factor(grams/mile)	Emissions by Speed	VMT by Speed
5 0.00	1,191.323000 0.000000		0.00
10 0.00	904.528000 0.000000		0.00
15 0.06	713.425000 885,264.112625		1,240.87
20 1.71	584.757000 20,316,925.854540		34,744.22
25 4.76	499.807000 48,375,055.018290		96,787.47
30 5.80	442.773000 52,195,044.271275		117,882.18
35 16.93	406.114000 139,747,192.054490		344,108.29
40 42.41	385.360000 332,137,849.474400		861,889.79
45 19.09	378.139000 146,757,551.513725		388,104.78
50 0.34	383.695000 2,643,318.979925		6,889.12
55 0.00	402.735000 0.000000		0.00
60 0.18	437.570000 1,628,895.894150		3,722.60
65 1.89	492.599000 18,948,714.602185		38,466.82
70 6.82	499.536000 69,265,109.772720		138,658.90
75 0.00	510.506000 0.000000		0.00
<hr/> Total	832,900,921.548325		2,032,495.00
100.00			

Pollutant Name : CO

VMT-Speed	Emission Factor(grams/mile)	Emissions by Speed	VMT by Speed
5 0.00	2.291000 0.000000		0.00
10 0.00	1.965000 0.000000		0.00
15 0.06	1.721000 2,135.528665		1,240.87
20 1.71	1.538000 53,436.610360		34,744.22
25 4.76	1.397000 135,212.095590		96,787.47
30 5.80	1.283000 151,242.830525		117,882.18
35 16.93	1.191000 409,832.967435		344,108.29

	Openi ng Year_Al t2_surroundi ng. ec	
40	1. 118000	861, 889. 79
42. 41	963, 592. 785220	
45	1. 064000	388, 104. 78
19. 09	412, 943. 480600	
50	1. 030000	6, 889. 12
0. 34	7, 095. 788450	
55	1. 019000	0. 00
0. 00	0. 000000	
60	1. 040000	3, 722. 60
0. 18	3, 871. 498800	
65	1. 109000	38, 466. 82
1. 89	42, 659. 697835	
70	1. 279000	138, 658. 90
6. 82	177, 344. 726705	
75	1. 576000	0. 00
0. 00	0. 000000	
Total	100. 00	2, 032, 495. 00
	2, 359, 368. 010185	

Pollutant Name : BUTADIENE

speed(mph) VMT-Speed	Emis sion Factor(grams/mile) Di stri buti on (%)	Emis sions by Speed VMT by Speed
5	0. 001091	0. 00
0. 00	0. 000000	
10	0. 000730	0. 00
0. 00	0. 000000	
15	0. 000512	1, 240. 87
0. 06	0. 635323	
20	0. 000383	34, 744. 22
1. 71	13. 307036	
25	0. 000307	96, 787. 47
4. 76	29. 713753	
30	0. 000259	117, 882. 18
5. 80	30. 531483	
35	0. 000231	344, 108. 29
16. 93	79. 489014	
40	0. 000216	861, 889. 79
42. 41	186. 168195	
45	0. 000211	388, 104. 78
19. 09	81. 890108	
50	0. 000219	6, 889. 12
0. 34	1. 508716	
55	0. 000242	0. 00
0. 00	0. 000000	
60	0. 000281	3, 722. 60
0. 18	1. 046049	
65	0. 000342	38, 466. 82
1. 89	13. 155651	
70	0. 000415	138, 658. 90
6. 82	57. 543441	
75	0. 000533	0. 00
0. 00	0. 000000	
Total	100. 00	2, 032, 495. 00
	494. 988769	

Pollutant Name : BENZENE

VMT-Speed	speed(mph)	Emissi on Di stri buti on (%)	Factor(grams/mile)	Openi ng Year_Alt2_surroundi ng. ec	VMT by Speed
				Emissi ons by Speed	
	5	0. 00	0. 005613 0. 000000		0. 00
	10	0. 00	0. 003687 0. 000000		0. 00
	15	0. 06	0. 002515 3. 120775		1, 240. 87
	20	1. 71	0. 001854 64. 415784		34, 744. 22
	25	4. 76	0. 001493 144. 503693		96, 787. 47
	30	5. 80	0. 001259 148. 413658		117, 882. 18
	35	16. 93	0. 001116 384. 024846		344, 108. 29
	40	42. 41	0. 001037 893. 779712		861, 889. 79
	45	19. 09	0. 001005 390. 045299		388, 104. 78
	50	0. 34	0. 001033 7. 116456		6, 889. 12
	55	0. 00	0. 001127 0. 000000		0. 00
	60	0. 18	0. 001296 4. 824483		3, 722. 60
	65	1. 89	0. 001561 60. 046698		38, 466. 82
	70	6. 82	0. 001874 259. 846769		138, 658. 90
	75	0. 00	0. 002382 0. 000000		0. 00
-----	Total	100. 00	2, 360. 138174		2, 032, 495. 00

Pollutant Name : ACROLEIN

VMT-Speed	speed(mph)	Emissi on Di stri buti on (%)	Factor(grams/mile)	Openi ng Year_Alt2_surroundi ng. ec	VMT by Speed
				Emissi ons by Speed	
	5	0. 00	0. 000232 0. 000000		0. 00
	10	0. 00	0. 000157 0. 000000		0. 00
	15	0. 06	0. 000113 0. 140218		1, 240. 87
	20	1. 71	0. 000085 2. 953259		34, 744. 22
	25	4. 76	0. 000068 6. 581548		96, 787. 47
	30	5. 80	0. 000057 6. 719284		117, 882. 18
	35	16. 93	0. 000051 17. 549523		344, 108. 29
	40	42. 41	0. 000048 41. 370710		861, 889. 79
	45	19. 09	0. 000047 18. 240924		388, 104. 78
	50	0. 34	0. 000049 0. 337567		6, 889. 12

	Opening Year_Al t2_surrounding_ec	
55	0. 000054	0. 00
	0. 000000	
60	0. 000063	3, 722. 60
	0. 234523	
65	0. 000077	38, 466. 82
	2. 961945	
70	0. 000094	138, 658. 90
	13. 033936	
75	0. 000120	0. 00
	0. 000000	
Total	100. 00	2, 032, 495. 00
	110. 123436	

Pollutant Name : ACETALDEHYDE

VMT-Speed	speed(mph)	Emission Factor(grams/mile)	Emissions by Speed	VMT by Speed
	5	0. 005372		0. 00
	0. 00	0. 000000		
	10	0. 003207		0. 00
	0. 00	0. 000000		
	15	0. 001833		1, 240. 87
	0. 06	2. 274506		
	20	0. 001229		34, 744. 22
	1. 71	42. 700646		
	25	0. 001033		96, 787. 47
	4. 76	99. 981457		
	30	0. 000884		117, 882. 18
	5. 80	104. 207843		
	35	0. 000773		344, 108. 29
	16. 93	265. 995704		
	40	0. 000695		861, 889. 79
	42. 41	599. 013404		
	45	0. 000643		388, 104. 78
	19. 09	249. 551370		
	50	0. 000618		6, 889. 12
	0. 34	4. 257473		
	55	0. 000623		0. 00
	0. 00	0. 000000		
	60	0. 000658		3, 722. 60
	0. 18	2. 449468		
	65	0. 000730		38, 466. 82
	1. 89	28. 080775		
	70	0. 000836		138, 658. 90
	6. 82	115. 918836		
	75	0. 001004		0. 00
	0. 00	0. 000000		
Total	100. 00	1, 514. 431482		2, 032, 495. 00

Idling Emissions (grams) (Currently NOT Available)

Opening Year_Al t2_surrounding.ec

Evaporative Running Loss Emissions (grams)

Pollutant Name : TOG_Los

Emissions	Emission Factor(grams/min)	total running time(hrs)
78,595.146928	0.025000	52,396.76

Pollutant Name : FORMALDEHYDE

Emissions	Emission Factor(grams/min)	total running time(hrs)
0.000000	0.000000	52,396.76

Pollutant Name : BUTADIENE

Emissions	Emission Factor(grams/min)	total running time(hrs)
6.287612	0.000002	52,396.76

Pollutant Name : BENZENE

Emissions	Emission Factor(grams/min)	total running time(hrs)
770.232440	0.000245	52,396.76

Pollutant Name : ACROLEIN

Emissions	Emission Factor(grams/min)	total running time(hrs)
0.000000	0.000000	52,396.76

Pollutant Name : ACETALDEHYDE

Emissions	Emission Factor(grams/min)	total running time(hrs)
0.000000	0.000000	52,396.76

Openi ng Year_Alt2_surroundi ng. ec

Total Emissions

Pollutant Name	Total Emissions (grams)	Total Emissions (Kilograms)
Total Emissions (US Tons)		
TOG 0.204560397	185,574.070268	185.574070
S02 0.009344408	8,477.104215	8.477104
Diesel_PM 0.009077221	8,234.716182	8.234716
PM2.5 0.037131537	33,685.163585	33.685164
PM10 0.039997512	36,285.132710	36.285133
NOX 0.495689145	449,681.628540	449.681629
FORMALDEHYDE 0.004201396	3,811.441885	3.811442
C02 918.116106702	832,900,921.548325	832,900.921548
CO 2.600758044	2,359,368.010185	2,359.368010
BUTADIENE 0.000552563	501.276381	0.501276
BENZENE 0.003450643	3,130.370614	3.130371
ACROLEIN 0.000121390	110.123436	0.110123
ACETALDEHYDE 0.001669375	1,514.431482	1.514431

END-----

Opening Year_Al t3_corridor.ec

Title : Opening Year
 Version : CT-EMFAC 2.6
 Run Date : 11 October 2012 10:41 AM
 Scen Year : 2022
 Season : Annual
 Temperature : 68F
 Relative Humidity : 59%
 Area : Orange County

Peak User Input :
 Number of Hours : Total VMT Volume (vph) Road Length(mi)
 1837635

	55	60	65	70	>75	VMT	5	10	15	20	by Speed(mph)	35	40	45	50	
55	18.7	15.1	14	3.6		%	.1	.6	.6	.5	1.2	5.3	12.8	5.6	8.7	13.2

Offpeak User Input:
 Number of Hours : Total VMT Volume (vph) Road Length(mi)
 2074713

	55	60	65	70	>75	VMT	5	10	15	20	by Speed(mph)	35	40	45	50
55	5.1	15.2	26.6	42.6		%	.1	.1	.3	.3	.5	5.5	.2	.1	3.4

Running Exhaust Emissions (grams)

Pollutant Name : TOG_exh

speed(mph)	Emission Factor(grams/mile)	VMT by Speed	
VMT-Speed	Di stri bution (%)	Emissions by Speed	
5	0.05	0.268000 492.486180	1,837.64
10	0.33	0.175000 2,292.591525	13,100.52
15	0.33	0.118000 1,545.861714	13,100.52
20	0.39	0.087000 1,340.871318	15,412.31
25	0.72	0.069000 1,951.027371	28,275.76
30	2.75	0.058000 6,250.556760	107,768.22
35	8.93	0.051000 17,815.651245	349,326.50
40	2.74	0.047000 5,031.678342	107,056.99
45	4.14	0.046000 7,449.652068	161,948.96
50		0.047000	313,108.06

Opening Year_Al t3_corridor.ec			
8. 00	14, 716. 078914		
55	0. 050000	449, 448. 11	
11. 49	22, 472. 405400		
60	0. 057000	592, 839. 26	
15. 15	33, 791. 837877		
65	0. 068000	809, 142. 56	
20. 68	55, 021. 693944		
70	0. 081000	949, 982. 60	
24. 28	76, 948. 590438		
75	0. 101000	0. 00	
0. 00	0. 000000		
<hr/> Total		3, 912, 348. 00	
	100. 00	247, 120. 983096	

Pollutant Name : SO2

VMT-Speed	Speed(mph)	Emission Factor(grams/mile)	Emissions by Speed	VMT by Speed
	5	0. 011000		1, 837. 64
	0. 05	20. 213985		
	10	0. 009000		13, 100. 52
	0. 33	117. 904707		
	15	0. 007000		13, 100. 52
	0. 33	91. 703661		
	20	0. 006000		15, 412. 31
	0. 39	92. 473884		
	25	0. 005000		28, 275. 76
	0. 72	141. 378795		
	30	0. 004000		107, 768. 22
	2. 75	431. 072880		
	35	0. 004000		349, 326. 50
	8. 93	1, 397. 305980		
	40	0. 004000		107, 056. 99
	2. 74	428. 227944		
	45	0. 004000		161, 948. 96
	4. 14	647. 795832		
	50	0. 004000		313, 108. 06
	8. 00	1, 252. 432248		
	55	0. 004000		449, 448. 11
	11. 49	1, 797. 792432		
	60	0. 004000		592, 839. 26
	15. 15	2, 371. 357044		
	65	0. 005000		809, 142. 56
	20. 68	4, 045. 712790		
	70	0. 005000		949, 982. 60
	24. 28	4, 749. 912990		
	75	0. 005000		0. 00
	0. 00	0. 000000		
<hr/> Total			3, 912, 348. 00	
	100. 00	17, 585. 285172		

Pollutant Name : Diesel_PM

VMT-Speed	Speed(mph)	Emission Factor(grams/mile)	Emissions by Speed	VMT by Speed
	5	0. 011470		1, 837. 64
	0. 05	21. 077673		

		Opening Year_Al t3_corridor.ec	
10	0.33	0.008843 115.847925	13, 100.52
15	0.33	0.006919 90.642519	13, 100.52
20	0.39	0.005624 86.678854	15, 412.31
25	0.72	0.004847 137.052604	28, 275.76
30	2.75	0.004292 462.541200	107, 768.22
35	8.93	0.003959 1,382.983594	349, 326.50
40	2.74	0.003774 404.033065	107, 056.99
45	4.14	0.003737 605.203256	161, 948.96
50	8.00	0.003848 1,204.839823	313, 108.06
55	11.49	0.004070 1,829.253800	449, 448.11
60	15.15	0.004440 2,632.206319	592, 839.26
65	20.68	0.004884 3,951.852253	809, 142.56
70	24.28	0.005476 5,202.104707	949, 982.60
75	0.00	0.006179 0.000000	0.00
<hr/>			
Total	100.00	18,126.317591	3,912,348.00

Pollutant Name : PM2.5

VMT-Speed	speed(mph)	Emission Factor(grams/mile)	Emissions by Speed	VMT by Speed
5	0.05	0.090000 165.387150		1,837.64
10	0.33	0.060000 786.031380		13,100.52
15	0.33	0.042000 550.221966		13,100.52
20	0.39	0.031000 477.781734		15,412.31
25	0.72	0.024000 678.618216		28,275.76
30	2.75	0.020000 2,155.364400		107,768.22
35	8.93	0.017000 5,938.550415		349,326.50
40	2.74	0.015000 1,605.854790		107,056.99
45	4.14	0.014000 2,267.285412		161,948.96
50	8.00	0.014000 4,383.512868		313,108.06
55	11.49	0.015000 6,741.721620		449,448.11
60	15.15	0.017000 10,078.267437		592,839.26
65		0.019000		809,142.56

Opening Year_Al t3_corridor.ec			
20. 68	15, 373. 708602		
70	0. 020000	949, 982. 60	
24. 28	18, 999. 651960		
75	0. 020000	0. 00	
0. 00	0. 000000		
<hr/> Total	100. 00	70, 201. 957950	3, 912, 348. 00

Pollutant Name : PM10

speed(mph)	Emission Factor(grams/mile)	VMT by Speed	
VMT-Speed	Distribution (%)	Emissions by Speed	
5	0. 097000	1, 837. 64	
	178. 250595		
10	0. 065000	13, 100. 52	
	851. 533995		
15	0. 045000	13, 100. 52	
	589. 523535		
20	0. 033000	15, 412. 31	
	508. 606362		
25	0. 026000	28, 275. 76	
	735. 169734		
30	0. 021000	107, 768. 22	
	2, 263. 132620		
35	0. 018000	349, 326. 50	
	6, 287. 876910		
40	0. 016000	107, 056. 99	
	1, 712. 911776		
45	0. 016000	161, 948. 96	
	2, 591. 183328		
50	0. 016000	313, 108. 06	
	5, 009. 728992		
55	0. 016000	449, 448. 11	
	7, 191. 169728		
60	0. 018000	592, 839. 26	
	10, 671. 106698		
65	0. 021000	809, 142. 56	
	16, 991. 993718		
70	0. 021000	949, 982. 60	
	19, 949. 634558		
75	0. 022000	0. 00	
0. 00	0. 000000		
<hr/> Total	100. 00	75, 531. 822549	3, 912, 348. 00

Pollutant Name : NOX

speed(mph)	Emission Factor(grams/mile)	VMT by Speed
VMT-Speed	Distribution (%)	Emissions by Speed
5	0. 418000	1, 837. 64
	768. 131430	
10	0. 340000	13, 100. 52
	4, 454. 177820	
15	0. 286000	13, 100. 52
	3, 746. 749578	
20	0. 252000	15, 412. 31
	3, 883. 903128	

		Opening Year_Al t3_corridor.ec	
25	0.72	0.232000 6,559.976088	28,275.76
30	2.75	0.219000 23,601.240180	107,768.22
35	8.93	0.211000 73,707.890445	349,326.50
40	2.74	0.208000 22,267.853088	107,056.99
45	4.14	0.210000 34,009.281180	161,948.96
50	8.00	0.217000 67,944.449454	313,108.06
55	11.49	0.231000 103,822.512948	449,448.11
60	15.15	0.253000 149,988.333033	592,839.26
65	20.68	0.286000 231,414.771588	809,142.56
70	24.28	0.328000 311,594.292144	949,982.60
75	0.00	0.390000 0.000000	0.00
<hr/>			
Total	100.00	1,037,763.562104	3,912,348.00

Pollutant Name : FORMALDEHYDE

VMT-Speed	Speed(mph)	Emission Factor(grams/mile)	Emissions by Speed	VMT by Speed
	5	0.012466 22.907958		1,837.64
	10	0.007577 99.262663		13,100.52
	15	0.004496 58.899951		13,100.52
	20	0.003082 47.500752		15,412.31
	25	0.002562 72.442495		28,275.76
	30	0.002183 235.258024		107,768.22
	35	0.001912 667.912258		349,326.50
	40	0.001731 185.315643		107,056.99
	45	0.001619 262.195363		161,948.96
	50	0.001583 495.650062		313,108.06
	55	0.001627 731.252072		449,448.11
	60	0.001759 1,042.804260		592,839.26
	65	0.001997 1,615.857688		809,142.56
	70	0.002315 2,199.209714		949,982.60
	75	0.002821 0.000000		0.00
<hr/>				

Total	Opening Year_Al t3_corridor.ec	3, 912, 348. 00
100. 00	7, 736. 468904	

Pollutant Name : CO2

VMT-Speed	Speed(mph)	Emission Factor(grams/mile)	VMT by Speed
	VMT-Speed Distribution (%)	Emissions by Speed	
5	0. 05	1, 191. 323000	1, 837. 64
10	0. 33	2, 189, 216. 841105	13, 100. 52
15	0. 33	904. 528000	13, 100. 52
20	0. 39	11, 849, 789. 868144	15, 412. 31
25	0. 72	713. 425000	28, 275. 76
30	2. 75	9, 346, 240. 621275	107, 768. 22
35	8. 93	584. 757000	349, 326. 50
40	2. 74	9, 012, 458. 497698	107, 056. 99
45	4. 14	499. 807000	161, 948. 96
50	8. 00	14, 132, 422. 278513	313, 108. 06
55	11. 49	442. 773000	449, 448. 11
60	15. 15	47, 716, 858. 074060	592, 839. 26
65	20. 68	406. 114000	809, 142. 56
70	24. 28	141, 866, 380. 190430	949, 982. 60
75	0. 00	385. 360000	0. 00
		41, 255, 480. 124960	
		378. 139000	
		61, 239, 217. 029162	
		383. 695000	
		120, 137, 997. 849090	
		402. 735000	
		181, 008, 483. 775380	
		437. 570000	
		259, 408, 675. 435770	
		492. 599000	
		398, 582, 814. 928242	
		499. 536000	
		474, 550, 507. 074528	
		510. 506000	
		0. 000000	
<hr/>	<hr/>	<hr/>	<hr/>
Total	100. 00	1, 772, 296, 542. 588360	3, 912, 348. 00

Pollutant Name : CO

VMT-Speed	Speed(mph)	Emission Factor(grams/mile)	VMT by Speed
	VMT-Speed Distribution (%)	Emissions by Speed	
5	0. 05	2. 291000	1, 837. 64
10	0. 33	4, 210. 021785	13, 100. 52
15	0. 33	1. 965000	13, 100. 52
20	0. 39	25, 742. 527695	15, 412. 31
25	0. 72	1. 721000	28, 275. 76
30	2. 75	22, 546. 000083	107, 768. 22
35	8. 93	1. 538000	349, 326. 50
		23, 704. 138932	
		1. 397000	
		39, 501. 235323	
		1. 283000	
		138, 266. 626260	
		1. 191000	
		416, 047. 855545	

		Openi ng_Year_Al t3_corri dor.ec	
40	2. 74	1. 118000 119, 689. 710348	107, 056. 99
45	4. 14	1. 064000 172, 313. 691312	161, 948. 96
50	8. 00	1. 030000 322, 501. 303860	313, 108. 06
55	11. 49	1. 019000 457, 987. 622052	449, 448. 11
60	15. 15	1. 040000 616, 552. 831440	592, 839. 26
65	20. 68	1. 109000 897, 339. 096822	809, 142. 56
70	24. 28	1. 279000 1, 215, 027. 742842	949, 982. 60
75	0. 00	1. 576000 0. 000000	0. 00
<hr/>			
Total	100. 00	4, 471, 430. 404299	3, 912, 348. 00

Pollutant Name : BUTADIENE

speed(mph) VMT-Speed	Emissi on Factor(grams/mile) Di stri bution (%)	Emissi ons by Speed	VMT by Speed
5	0. 05	0. 001091 2. 004860	1, 837. 64
10	0. 33	0. 000730 9. 563382	13, 100. 52
15	0. 33	0. 000512 6. 707468	13, 100. 52
20	0. 39	0. 000383 5. 902916	15, 412. 31
25	0. 72	0. 000307 8. 680658	28, 275. 76
30	2. 75	0. 000259 27. 911969	107, 768. 22
35	8. 93	0. 000231 80. 694420	349, 326. 50
40	2. 74	0. 000216 23. 124309	107, 056. 99
45	4. 14	0. 000211 34. 171230	161, 948. 96
50	8. 00	0. 000219 68. 570666	313, 108. 06
55	11. 49	0. 000242 108. 766442	449, 448. 11
60	15. 15	0. 000281 166. 587832	592, 839. 26
65	20. 68	0. 000342 276. 726755	809, 142. 56
70	24. 28	0. 000415 394. 242778	949, 982. 60
75	0. 00	0. 000533 0. 000000	0. 00
<hr/>			
Total	100. 00	1, 213. 655685	3, 912, 348. 00

Pollutant Name : BENZENE

VMT-Speed	speed(mph)	Emission Factor(grams/mile)	Opening Year_Al t3_corridor.ec	VMT by Speed
		Emissions by Speed		
	5	0. 005613		1, 837. 64
	0. 05	10. 314645		
	10	0. 003687		13, 100. 52
	0. 33	48. 301628		
	15	0. 002515		13, 100. 52
	0. 33	32. 947815		
	20	0. 001854		15, 412. 31
	0. 39	28. 574430		
	25	0. 001493		28, 275. 76
	0. 72	42. 215708		
	30	0. 001259		107, 768. 22
	2. 75	135. 680189		
	35	0. 001116		349, 326. 50
	8. 93	389. 848368		
	40	0. 001037		107, 056. 99
	2. 74	111. 018094		
	45	0. 001005		161, 948. 96
	4. 14	162. 758703		
	50	0. 001033		313, 108. 06
	8. 00	323. 440628		
	55	0. 001127		449, 448. 11
	11. 49	506. 528018		
	60	0. 001296		592, 839. 26
	15. 15	768. 319682		
	65	0. 001561		809, 142. 56
	20. 68	1, 263. 071533		
	70	0. 001874		949, 982. 60
	24. 28	1, 780. 267389		
	75	0. 002382		0. 00
	0. 00	0. 000000		
-----	Total			3, 912, 348. 00
		100. 00	5, 603. 286832	

Pollutant Name : ACROLEIN

VMT-Speed	speed(mph)	Emission Factor(grams/mile)	VMT by Speed
		Emissions by Speed	
	5	0. 000232	1, 837. 64
	0. 05	0. 426331	
	10	0. 000157	13, 100. 52
	0. 33	2. 056782	
	15	0. 000113	13, 100. 52
	0. 33	1. 480359	
	20	0. 000085	15, 412. 31
	0. 39	1. 310047	
	25	0. 000068	28, 275. 76
	0. 72	1. 922752	
	30	0. 000057	107, 768. 22
	2. 75	6. 142789	
	35	0. 000051	349, 326. 50
	8. 93	17. 815651	
	40	0. 000048	107, 056. 99
	2. 74	5. 138735	
	45	0. 000047	161, 948. 96
	4. 14	7. 611601	
	50	0. 000049	313, 108. 06
	8. 00	15. 342295	
		Page 8	

	Opening Year_Al t3_corridor.ec	
55 11. 49	0. 000054 24. 270198	449, 448. 11
60 15. 15	0. 000063 37. 348873	592, 839. 26
65 20. 68	0. 000077 62. 303977	809, 142. 56
70 24. 28	0. 000094 89. 298364	949, 982. 60
75 0. 00	0. 000120 0. 000000	0. 00
<hr/> Total	100. 00	272. 468754
		3, 912, 348. 00

Pollutant Name : ACETALDEHYDE

speed(mph) VMT-Speed	Emission Factor(grams/mile) Emissions by Speed	VMT by Speed
5 0. 05	0. 005372 9. 871775	1, 837. 64
10 0. 33	0. 003207 42. 013377	13, 100. 52
15 0. 33	0. 001833 24. 013259	13, 100. 52
20 0. 39	0. 001229 18. 941734	15, 412. 31
25 0. 72	0. 001033 29. 208859	28, 275. 76
30 2. 75	0. 000884 95. 267106	107, 768. 22
35 8. 93	0. 000773 270. 029381	349, 326. 50
40 2. 74	0. 000695 74. 404605	107, 056. 99
45 4. 14	0. 000643 104. 133180	161, 948. 96
50 8. 00	0. 000618 193. 500782	313, 108. 06
55 11. 49	0. 000623 280. 006171	449, 448. 11
60 15. 15	0. 000658 390. 088234	592, 839. 26
65 20. 68	0. 000730 590. 674067	809, 142. 56
70 24. 28	0. 000836 794. 185452	949, 982. 60
75 0. 00	0. 001004 0. 000000	0. 00
<hr/> Total	100. 00	2, 916. 337983
		3, 912, 348. 00

Idling Emissions (grams) (Currently NOT Available)

Openi ng Year_Alt3_corri dor.ec

Evaporati ve Runni ng Loss Emi ssi ons (grams)

Pollutant Name : TOG_Ios

Emi ssi ons	Emi ssion Factor(grams/mi n)	total runni ng time(hrs)
111, 952. 561999	0. 025000	74, 635. 04

Pollutant Name : FORMALDEHYDE

Emi ssi ons	Emi ssion Factor(grams/mi n)	total runni ng time(hrs)
	0. 000000	74, 635. 04
0. 000000		

Pollutant Name : BUTADIENE

Emi ssi ons	Emi ssion Factor(grams/mi n)	total runni ng time(hrs)
	0. 000002	74, 635. 04
8. 956205		

Pollutant Name : BENZENE

Emi ssi ons	Emi ssion Factor(grams/mi n)	total runni ng time(hrs)
	0. 000245	74, 635. 04
1, 097. 135108		

Pollutant Name : ACROLEIN

Emi ssi ons	Emi ssion Factor(grams/mi n)	total runni ng time(hrs)
	0. 000000	74, 635. 04
0. 000000		

Pollutant Name : ACETALDEHYDE

Emi ssi ons	Emi ssion Factor(grams/mi n)	total runni ng time(hrs)
	0. 000000	74, 635. 04
0. 000000		

Openi ng Year_AI t3_corri dor.ec

Total Emissions

Pollutant Name	Total Emissions (grams)	Total Emissions (Kilograms)
Total Emissions (US Tons)		
TOG	359,073,545.095	359,073.545
0.395810830		
S02	17,585,285.172	17.585285
0.019384459		
Diesel_PM	18,126,317.591	18.126318
0.019980845		
PM2.5	70,201,957.950	70.201958
0.077384412		
PM10	75,531,822.549	75.531823
0.083259582		
NOX	1,037,763,562.104	1,037.763562
1.143938513		
FORMALDEHYDE	7,736,468.904	7.736469
0.008527997		
C02	1,772,296,542,588.360	1,772,296.542588
1,953,622525207		
CO	4,471,430,404.299	4,471.430404
4.928908311		
BUTADIENE	1,222,611.890	1.222612
0.001347699		
BENZENE	6,700,421.939	6.700422
0.007385951		
ACROLEIN	272,468.754	0.272469
0.000300345		
ACETALDEHYDE	2,916,337.983	2.916338
0.003214712		

END-----

Opening Year_At3_surrounding_ec

Title :	Opening Year												
Version :	CT-EMFAC 2.6												
Run Date :	11 October 2012 10:47 AM												
Scen Year :	2022												
Season :	Annual												
Temperature :	68F												
Relative Humidity :	59%												
Area :	Orange County												
Peak User Input :													
Number of Hours	Total VMT	Volume (vph)			Road Length(mi)								
	1238758												
55 60 65 70 (mph)	VMT	5	10	15	20	by	Speed(mph)	35	40	45	50		
.3 2.6 7.3 %	>75	.1	2.6	8	9.4	22.5		35	11.9	.3			
Offpeak User Input:	Total VMT	Volume (vph)			Road Length(mi)								
Number of Hours	790619												
55 60 65 70 (mph)	VMT	5	10	15	20	by	Speed(mph)	35	40	45	50		
.6.7 %	>75							8.2	53.6	31	.5		

Running Exhaust Emissions (grams)

Polutant Name	:	TOG_exh	
speed(mph)	Emission Factor(grams/mile)		VMT by Speed
VMT-Speed	Distribution (%)	Emissions by Speed	
5	0. 00	0. 268000 0. 000000	0. 00
10	0. 00	0. 175000 0. 000000	0. 00
15	0. 06	0. 118000 146. 173444	1, 238. 76
20	1. 59	0. 087000 2, 802. 070596	32, 207. 71
25	4. 88	0. 069000 6, 837. 944160	99, 100. 64
30	5. 74	0. 058000 6, 753. 708616	116, 443. 25
35	16. 93	0. 051000 17, 521. 116708	343, 551. 31
40	42. 25	0. 047000 40, 294. 842948	857, 337. 08
45	19. 34	0. 046000 18, 055. 188232	392, 504. 09
50		0. 047000	7, 669. 37

Opening Year_Al t3_surrounding_ec			
55	0. 38	360. 460343	0. 00
60	0. 00	0. 050000	0. 000000
65	0. 18	0. 057000	211. 827618
70	1. 59	0. 068000	2, 190. 124144
75	7. 07	0. 081000	0. 081000
	0. 00	0. 101000	11, 615. 465367
		0. 000000	0. 00
<hr/> Total		100. 00	106, 788. 922176
			2, 029, 377. 00

Pollutant Name : SO2

VMT-Speed	speed(mph)	Emission Factor(grams/mile)	Emissions by Speed	VMT by Speed
5	0. 00	0. 011000	0. 000000	0. 00
10	0. 00	0. 009000	0. 000000	0. 00
15	0. 06	0. 007000	8. 671306	1, 238. 76
20	1. 59	0. 006000	193. 246248	32, 207. 71
25	4. 88	0. 005000	495. 503200	99, 100. 64
30	5. 74	0. 004000	465. 773008	116, 443. 25
35	16. 93	0. 004000	1, 374. 205232	343, 551. 31
40	42. 25	0. 004000	3, 429. 348336	857, 337. 08
45	19. 34	0. 004000	1, 570. 016368	392, 504. 09
50	0. 38	0. 004000	30. 677476	7, 669. 37
55	0. 00	0. 004000	0. 000000	0. 00
60	0. 18	0. 004000	14. 865096	3, 716. 27
65	1. 59	0. 005000	161. 038540	32, 207. 71
70	7. 07	0. 005000	717. 004035	143, 400. 81
75	0. 00	0. 005000	0. 000000	0. 00
<hr/> Total		100. 00	8, 460. 348845	2, 029, 377. 00

Pollutant Name : Diesel_PM

VMT-Speed	speed(mph)	Emission Factor(grams/mile)	Emissions by Speed	VMT by Speed
5	0. 00	0. 011470	0. 000000	0. 00

		Opening Year_Al t3_surrounding_ec	
10	0.00	0.008843 0.000000	0.00
15	0.06	0.006919 8.570967	1,238.76
20	1.59	0.005624 181.136150	32,207.71
25	4.88	0.004847 480.340802	99,100.64
30	5.74	0.004292 499.774438	116,443.25
35	16.93	0.003959 1,360.119628	343,551.31
40	42.25	0.003774 3,235.590155	857,337.08
45	19.34	0.003737 1,466.787792	392,504.09
50	0.38	0.003848 29.511732	7,669.37
55	0.00	0.004070 0.000000	0.00
60	0.18	0.004440 16.500257	3,716.27
65	1.59	0.004884 157.302446	32,207.71
70	7.07	0.005476 785.262819	143,400.81
75	0.00	0.006179 0.000000	0.00
<hr/>			
Total	100.00	8,220.897185	2,029,377.00

Pollutant Name : PM2.5

VMT-Speed	Speed(mph)	Emission Factor(grams/mile)	Emissions by Speed	VMT by Speed
5	0.00	0.090000 0.000000		0.00
10	0.00	0.060000 0.000000		0.00
15	0.06	0.042000 52.027836		1,238.76
20	1.59	0.031000 998.438948		32,207.71
25	4.88	0.024000 2,378.415360		99,100.64
30	5.74	0.020000 2,328.865040		116,443.25
35	16.93	0.017000 5,840.372236		343,551.31
40	42.25	0.015000 12,860.056260		857,337.08
45	19.34	0.014000 5,495.057288		392,504.09
50	0.38	0.014000 107.371166		7,669.37
55	0.00	0.015000 0.000000		0.00
60	0.18	0.017000 63.176658		3,716.27
65	0.00	0.019000		32,207.71

		Opening Year_Al t3_surrounding_ec	
70	1. 59	611. 946452	
	7. 07	0. 020000	143, 400. 81
75	0. 00	2, 868. 016140	
		0. 020000	0. 00
		0. 000000	
Total	100. 00	33, 603. 743384	2, 029, 377. 00

Pollutant Name : PM10

speed(mph)	Emission Factor(grams/mile)	VMT by Speed	
VMT-Speed	Distribution (%)	Emissions by Speed	
5	0. 097000	0. 00	
	0. 000000		
10	0. 065000	0. 00	
	0. 000000		
15	0. 045000	1, 238. 76	
	55. 744110		
20	0. 033000	32, 207. 71	
	1, 062. 854364		
25	0. 026000	99, 100. 64	
	2, 576. 616640		
30	0. 021000	116, 443. 25	
	2, 445. 308292		
35	0. 018000	343, 551. 31	
	6, 183. 923544		
40	0. 016000	857, 337. 08	
	13, 717. 393344		
45	0. 016000	392, 504. 09	
	6, 280. 065472		
50	0. 016000	7, 669. 37	
	122. 709904		
55	0. 016000	0. 00	
	0. 000000		
60	0. 018000	3, 716. 27	
	66. 892932		
65	0. 021000	32, 207. 71	
	676. 361868		
70	0. 021000	143, 400. 81	
	3, 011. 416947		
75	0. 022000	0. 00	
	0. 000000		
Total	100. 00	36, 199. 287417	2, 029, 377. 00

Pollutant Name : NOX

speed(mph)	Emission Factor(grams/mile)	VMT by Speed
VMT-Speed	Distribution (%)	Emissions by Speed
5	0. 418000	0. 00
	0. 000000	
10	0. 340000	0. 00
	0. 000000	
15	0. 286000	1, 238. 76
	354. 284788	
20	0. 252000	32, 207. 71
	8, 116. 342416	

		Openi ng Year_Al t3_surroundi ng. ec	
25	4. 88	0. 232000 22, 991. 348480	99, 100. 64
30	5. 74	0. 219000 25, 501. 072188	116, 443. 25
35	16. 93	0. 211000 72, 489. 325988	343, 551. 31
40	42. 25	0. 208000 178, 326. 113472	857, 337. 08
45	19. 34	0. 210000 82, 425. 859320	392, 504. 09
50	0. 38	0. 217000 1, 664. 253073	7, 669. 37
55	0. 00	0. 231000 0. 000000	0. 00
60	0. 18	0. 253000 940. 217322	3, 716. 27
65	1. 59	0. 286000 9, 211. 404488	32, 207. 71
70	7. 07	0. 328000 47, 035. 464696	143, 400. 81
75	0. 00	0. 390000 0. 000000	0. 00
<hr/>			
Total	100. 00	449, 055. 686231	2, 029, 377. 00

Po l lutant Name : FORMALDEHYDE

VMT-Speed	speed(mph)	Emissi on Factor(grams/mile)	VMT by Speed
VMT-Speed	Di stri buti on (%)	Emissi ons by Speed	
5	0. 00	0. 012466 0. 000000	0. 00
10	0. 00	0. 007577 0. 000000	0. 00
15	0. 06	0. 004496 5. 569456	1, 238. 76
20	1. 59	0. 003082 99. 264156	32, 207. 71
25	4. 88	0. 002562 253. 895840	99, 100. 64
30	5. 74	0. 002183 254. 195619	116, 443. 25
35	16. 93	0. 001912 656. 870101	343, 551. 31
40	42. 25	0. 001731 1, 484. 050492	857, 337. 08
45	19. 34	0. 001619 635. 464125	392, 504. 09
50	0. 38	0. 001583 12. 140611	7, 669. 37
55	0. 00	0. 001627 0. 000000	0. 00
60	0. 18	0. 001759 6. 536926	3, 716. 27
65	1. 59	0. 001997 64. 318793	32, 207. 71
70	7. 07	0. 002315 331. 972868	143, 400. 81
75	0. 00	0. 002821 0. 000000	0. 00
<hr/>			

Opening Year_At3_surrounding_ec		
Total	100.00	3,804.278987
		2,029,377.00

Pollutant Name : CO2

Opening Year_At3_surrounding_ec		
VMT-Speed	Emission Factor(grams/mile)	VMT by Speed
VMT-Speed	Distribution (%)	Emissions by Speed
5	1,191.323000	0.00
10	904.528000	0.00
15	713.425000	1,238.76
20	584.757000	32,207.71
25	499.807000	99,100.64
30	49,531,193.576480	116,443.25
35	442.773000	343,551.31
40	51,557,928.017796	857,337.08
45	406.114000	392,504.09
50	139,520,995.897112	7,669.37
55	385.360000	0.00
60	330,383,418.690240	3,716.27
65	378.139000	19,34
70	148,421,104.844788	32,207.71
75	383.695000	143,400.81
80	2,942,698.538455	0.00
85	402.735000	0.00
90	0.000000	0.00
95	437.570000	0.00
100	1,626,130.014180	0.00
105	492.599000	0.00
110	15,865,484.753092	0.00
115	499.536000	0.00
120	71,633,865.525552	0.00
125	510.506000	0.00
130	0.000000	0.00
Total	831,200,263.490801	2,029,377.00
100.00		

Pollutant Name : CO

Opening Year_At3_surrounding_ec		
VMT-Speed	Emission Factor(grams/mile)	VMT by Speed
VMT-Speed	Distribution (%)	Emissions by Speed
5	2.291000	0.00
10	0.000000	0.00
15	1.965000	0.00
20	1.721000	1,238.76
25	2,131.902518	32,207.71
30	1.538000	99,100.64
35	49,535.454904	116,443.25
40	1.397000	343,551.31
45	138,443.594080	0.00
50	1.283000	0.00
55	149,396.692316	0.00
60	1.191000	0.00
65	409,169.607828	0.00

		Openi ng Year_Al t3_surroundi ng. ec	
40	42. 25	1. 118000 958, 502. 859912	857, 337. 08
45	19. 34	1. 064000 417, 624. 353888	392, 504. 09
50	0. 38	1. 030000 7, 899. 450070	7, 669. 37
55	0. 00	1. 019000 0. 000000	0. 00
60	0. 18	1. 040000 3, 864. 924960	3, 716. 27
65	1. 59	1. 109000 35, 718. 348172	32, 207. 71
70	7. 07	1. 279000 183, 409. 632153	143, 400. 81
75	0. 00	1. 576000 0. 000000	0. 00
<hr/>			
Total	100. 00	2, 355, 696. 820801	2, 029, 377. 00

Po l lutant Name : BUTADIENE

VMT-Speed	Emi ssi on Factor(grams/mile)	Emi ssi ons by Speed	VMT by Speed
5	0. 001091	0. 000000	0. 00
10	0. 000730	0. 000000	0. 00
15	0. 000512	0. 634244	1, 238. 76
20	0. 000383	12. 335552	32, 207. 71
25	0. 000307	30. 423896	99, 100. 64
30	0. 000259	30. 158802	116, 443. 25
35	0. 000231	79. 360352	343, 551. 31
40	0. 000216	185. 184810	857, 337. 08
45	0. 000211	82. 818363	392, 504. 09
50	0. 000219	1. 679592	7, 669. 37
55	0. 000242	0. 000000	0. 00
60	0. 000281	1. 044273	3, 716. 27
65	0. 000342	11. 015036	32, 207. 71
70	0. 000415	59. 511335	143, 400. 81
75	0. 000533	0. 000000	0. 00
<hr/>			
Total	100. 00	494. 166257	2, 029, 377. 00

Po l lutant Name : BENZENE

VMT-Speed	speed(mph)	Emissi on Di stri buti on (%)	Factor(grams/mile)	Openi ng Year_Al t3_surroundi ng. ec	VMT by Speed
				Emissi ons by Speed	
	5	0. 00	0. 005613 0. 000000		0. 00
	10	0. 00	0. 003687 0. 000000		0. 00
	15	0. 06	0. 002515 3. 115476		1, 238. 76
	20	1. 59	0. 001854 59. 713091		32, 207. 71
	25	4. 88	0. 001493 147. 957256		99, 100. 64
	30	5. 74	0. 001259 146. 602054		116, 443. 25
	35	16. 93	0. 001116 383. 403260		343, 551. 31
	40	42. 25	0. 001037 889. 058556		857, 337. 08
	45	19. 34	0. 001005 394. 466612		392, 504. 09
	50	0. 38	0. 001033 7. 922458		7, 669. 37
	55	0. 00	0. 001127 0. 000000		0. 00
	60	0. 18	0. 001296 4. 816291		3, 716. 27
	65	1. 59	0. 001561 50. 276232		32, 207. 71
	70	7. 07	0. 001874 268. 733112		143, 400. 81
	75	0. 00	0. 002382 0. 000000		0. 00
-----	Total	100. 00	2, 356. 064399		2, 029, 377. 00

Pollutant Name : ACROLEIN

VMT-Speed	speed(mph)	Emissi on Di stri buti on (%)	Factor(grams/mile)	Openi ng Year_Al t3_surroundi ng. ec	VMT by Speed
				Emissi ons by Speed	
	5	0. 00	0. 000232 0. 000000		0. 00
	10	0. 00	0. 000157 0. 000000		0. 00
	15	0. 06	0. 000113 0. 139980		1, 238. 76
	20	1. 59	0. 000085 2. 737655		32, 207. 71
	25	4. 88	0. 000068 6. 738844		99, 100. 64
	30	5. 74	0. 000057 6. 637265		116, 443. 25
	35	16. 93	0. 000051 17. 521117		343, 551. 31
	40	42. 25	0. 000048 41. 152180		857, 337. 08
	45	19. 34	0. 000047 18. 447692		392, 504. 09
	50	0. 38	0. 000049 0. 375799		7, 669. 37

	Opening Year_Al t3_surrounding_ec	
55	0. 000054	0. 00
60	0. 000063	3, 716. 27
65	0. 000077	32, 207. 71
70	0. 000094	143, 400. 81
75	0. 000120	0. 00
	0. 000000	
Total	100. 00	2, 029, 377. 00
	109. 944326	

Pollutant Name : ACETALDEHYDE

speed(mph) VMT-Speed	Emission Factor(grams/mile) Emissions by Speed	VMT by Speed
5	0. 005372	0. 00
10	0. 003207	0. 00
15	0. 001833	1, 238. 76
20	0. 001229	32, 207. 71
25	0. 001033	99, 100. 64
30	0. 000884	116, 443. 25
35	0. 000773	343, 551. 31
40	0. 000695	857, 337. 08
45	0. 000643	392, 504. 09
50	0. 000618	7, 669. 37
55	0. 000623	0. 00
60	0. 000658	3, 716. 27
65	0. 000730	32, 207. 71
70	0. 000836	143, 400. 81
75	0. 001004	0. 00
	0. 000000	
Total	100. 00	2, 029, 377. 00
	1, 511. 534958	

Idling Emissions (grams) (Currently NOT Available)

Opening Year_Al t3_surrounding.ec

Evaporative Running Loss Emissions (grams)

Pollutant Name : TOG_Los

Emissions	Emission Factor(grams/min)	total running time(hrs)
78,404.009925	0.025000	52,269.34

Pollutant Name : FORMALDEHYDE

Emissions	Emission Factor(grams/min)	total running time(hrs)
0.000000	0.000000	52,269.34

Pollutant Name : BUTADIENE

Emissions	Emission Factor(grams/min)	total running time(hrs)
6.272321	0.000002	52,269.34

Pollutant Name : BENZENE

Emissions	Emission Factor(grams/min)	total running time(hrs)
768.359297	0.000245	52,269.34

Pollutant Name : ACROLEIN

Emissions	Emission Factor(grams/min)	total running time(hrs)
0.000000	0.000000	52,269.34

Pollutant Name : ACETALDEHYDE

Emissions	Emission Factor(grams/min)	total running time(hrs)
0.000000	0.000000	52,269.34

Openi ng Year_Al t3_surroundi ng. ec
 Total Emissions

Pollutant Name	Total Emissions (grams)	Total Emissions (Kilograms)
Total Emissions (US Tons)		
TOG	185,192,932101	185,192932
S02	8,460,348845	8,460349
Diesel_PM	8,220,897185	8,220897
PM2.5	33,603,743384	33,603743
PM10	36,199,287417	36,199287
NOX	449,055,686231	449,055686
FORMALDEHYDE	3,804,278987	3,804279
C02	831,200,263,490801	831,200,263491
CO	2,355,696,820801	2,355,696821
BUTADIENE	500,438577	0,500439
BENZENE	3,124,423696	3,124424
ACROLEIN	109,944326	0,109944
ACETALDEHYDE	1,511,534958	1,511535
0.001666182		

END-----

Horizon Year_At1廊道.ec

Title : Horizon Year
 Version : CT-EMFAC 2.6
 Run Date : 11 October 2012 10:57 AM
 Scen Year : 2040
 Season : Annual
 Temperature : 68F
 Relative Humidity : 59%
 Area : Orange County

Peak User Input :
 Number of Hours : Total VMT Volume (vph) Road Length(mi)
 2028113

	55	60	65	70	(mph)	>75	VMT	5	10	15	20	by	Speed(mph)	35	40	45	50
	13.9	9.3	8.2	.8	%		.2	.6	.7	.7	2.6		8	15.1	9.5	11	19.4

Offpeak User Input:
 Number of Hours : Total VMT Volume (vph) Road Length(mi)
 2424238

	55	60	65	70	(mph)	>75	VMT	5	10	15	20	by	Speed(mph)	35	40	45	50
	16.4	12.6	22.1	32.6	%		.2	.1	.4	.5	.5		5	.4		9.7	

Running Exhaust Emissions (grams)

Polutant Name	: TOG_exh	VMT by Speed
speed(mph)	Emission Factor(grams/mile)	VMT by Speed
VMT-Speed	Di stri bution (%)	Emissi ons by Speed
5	0. 09	0. 169000
		685. 502194
10	0. 27	0. 107000
		1, 302. 048546
15	0. 43	0. 070000
		1, 333. 168690
20	0. 37	0. 050000
		831. 051450
25	1. 40	0. 040000
		2, 497. 115600
30	3. 92	0. 034000
		5, 928. 587820
35	9. 60	0. 030000
		12, 823. 708890
40	4. 55	0. 027000
		5, 463. 927549
45	5. 01	0. 026000
		5, 800. 403180
50		0. 027000

	Hori zon	Year_Al t1_corri dor. ec	
14. 12	16, 972. 335216		
55	0. 029000	679, 482. 74	
15. 26	19, 704. 999431		
60	0. 032000	494, 068. 50	
11. 10	15, 810. 191904		
65	0. 039000	702, 061. 86	
15. 77	27, 380. 412696		
70	0. 045000	806, 526. 49	
18. 11	36, 293. 692140		
75	0. 056000	0. 00	
0. 00	0. 000000		
<hr/> Total	100. 00	152, 827. 145306	4, 452, 351. 00

Po l lutant Name : S02

speed(mph)	VMT-Speed	Emissi on Factor(grams/mile)	Emi ssions by Speed	VMT by Speed
5	0. 09	0. 012000	48. 674712	4, 056. 23
10	0. 27	0. 009000	109. 518102	12, 168. 68
15	0. 43	0. 007000	133. 316869	19, 045. 27
20	0. 37	0. 006000	99. 726174	16, 621. 03
25	1. 40	0. 005000	312. 139450	62, 427. 89
30	3. 92	0. 004000	697. 480920	174, 370. 23
35	9. 60	0. 004000	1, 709. 827852	427, 456. 96
40	4. 55	0. 004000	809. 470748	202, 367. 69
45	5. 01	0. 004000	892. 369720	223, 092. 43
50	14. 12	0. 004000	2, 514. 420032	628, 605. 01
55	15. 26	0. 004000	2, 717. 930956	679, 482. 74
60	11. 10	0. 004000	1, 976. 273988	494, 068. 50
65	15. 77	0. 005000	3, 510. 309320	702, 061. 86
70	18. 11	0. 005000	4, 032. 632460	806, 526. 49
75	0. 00	0. 005000	0. 000000	0. 00
<hr/> Total	100. 00	19, 564. 091303	4, 452, 351. 00	

Po l lutant Name : Di esel _PM

speed(mph)	VMT-Speed	Emissi on Factor(grams/mile)	Emi ssions by Speed	VMT by Speed
5	0. 09	0. 008052	32. 660732	4, 056. 23

		Hori zon Year_Al t1_corri dor. ec	
10	0. 27	0. 006512 79. 242431	12, 168. 68
15	0. 43	0. 005368 102. 234993	19, 045. 27
20	0. 37	0. 004532 75. 326503	16, 621. 03
25	1. 40	0. 003960 247. 214444	62, 427. 89
30	3. 92	0. 003608 629. 127790	174, 370. 23
35	9. 60	0. 003388 1, 448. 224191	427, 456. 96
40	4. 55	0. 003300 667. 813367	202, 367. 69
45	5. 01	0. 003344 746. 021086	223, 092. 43
50	14. 12	0. 003476 2, 185. 031008	628, 605. 01
55	15. 26	0. 003696 2, 511. 368203	679, 482. 74
60	11. 10	0. 004004 1, 978. 250262	494, 068. 50
65	15. 77	0. 004400 3, 089. 072202	702, 061. 86
70	18. 11	0. 004884 3, 939. 075387	806, 526. 49
75	0. 00	0. 005456 0. 000000	0. 00
<hr/>			
Total	100. 00	17, 730. 662599	4, 452, 351. 00

Po l lutant Name : PM2. 5

speed(mph) VMT-Speed	Emi ssion Factor(grams/mile) Di stri bution (%)	Emi ssions by Speed	VMT by Speed
5	0. 09	0. 091000 369. 116566	4, 056. 23
10	0. 27	0. 060000 730. 120680	12, 168. 68
15	0. 43	0. 042000 799. 901214	19, 045. 27
20	0. 37	0. 031000 515. 251899	16, 621. 03
25	1. 40	0. 024000 1, 498. 269360	62, 427. 89
30	3. 92	0. 019000 3, 313. 034370	174, 370. 23
35	9. 60	0. 017000 7, 266. 768371	427, 456. 96
40	4. 55	0. 015000 3, 035. 515305	202, 367. 69
45	5. 01	0. 014000 3, 123. 294020	223, 092. 43
50	14. 12	0. 014000 8, 800. 470112	628, 605. 01
55	15. 26	0. 015000 10, 192. 241085	679, 482. 74
60	11. 10	0. 017000 8, 399. 164449	494, 068. 50
65	0. 019000		702, 061. 86

		Hori zon Year_Al t1_corri dor. ec	
15. 77		13, 339. 175416	
70		0. 020000	806, 526. 49
18. 11		16, 130. 529840	
75		0. 020000	0. 00
0. 00		0. 000000	
<hr/>			
Total	100. 00	77, 512. 852687	4, 452, 351. 00

Pollutant Name : PM10

speed(mph)	Emis sion Factor(grams/mile)	VMT by Speed	
VMT-Speed	Di stri buti on (%)	Emis sions by Speed	
5	0. 09	0. 098000 397. 510148	4, 056. 23
10	0. 27	0. 065000 790. 964070	12, 168. 68
15	0. 43	0. 045000 857. 037015	19, 045. 27
20	0. 37	0. 033000 548. 493957	16, 621. 03
25	1. 40	0. 026000 1, 623. 125140	62, 427. 89
30	3. 92	0. 021000 3, 661. 774830	174, 370. 23
35	9. 60	0. 018000 7, 694. 225334	427, 456. 96
40	4. 55	0. 016000 3, 237. 882992	202, 367. 69
45	5. 01	0. 016000 3, 569. 478880	223, 092. 43
50	14. 12	0. 016000 10, 057. 680128	628, 605. 01
55	15. 26	0. 016000 10, 871. 723824	679, 482. 74
60	11. 10	0. 018000 8, 893. 232946	494, 068. 50
65	15. 77	0. 021000 14, 743. 299144	702, 061. 86
70	18. 11	0. 021000 16, 937. 056332	806, 526. 49
75	0. 00	0. 022000 0. 000000	0. 00
<hr/>			
Total	100. 00	83, 883. 484740	4, 452, 351. 00

Pollutant Name : NOX

speed(mph)	Emis sion Factor(grams/mile)	VMT by Speed	
VMT-Speed	Di stri buti on (%)	Emis sions by Speed	
5	0. 09	0. 264000 1, 070. 843664	4, 056. 23
10	0. 27	0. 213000 2, 591. 928414	12, 168. 68
15	0. 43	0. 176000 3, 351. 966992	19, 045. 27
20	0. 37	0. 152000 2, 526. 396408	16, 621. 03

		Hori zon Year_Al t1_corri dor. ec	
25	1. 40	0. 139000 8, 677. 476710	62, 427. 89
30	3. 92	0. 130000 22, 668. 129900	174, 370. 23
35	9. 60	0. 124000 53, 004. 663412	427, 456. 96
40	4. 55	0. 120000 24, 284. 122440	202, 367. 69
45	5. 01	0. 120000 26, 771. 091600	223, 092. 43
50	14. 12	0. 123000 77, 318. 415984	628, 605. 01
55	15. 26	0. 129000 87, 653. 273331	679, 482. 74
60	11. 10	0. 140000 69, 169. 589580	494, 068. 50
65	15. 77	0. 158000 110, 925. 774512	702, 061. 86
70	18. 11	0. 181000 145, 981. 295052	806, 526. 49
75	0. 00	0. 217000 0. 000000	0. 00
<hr/>			
Total		100. 00 635, 994. 967999	4, 452, 351. 00

Po l lutant Name : FORMALDEHYDE

speed(mph) VMT-Speed	Emi ssi on Di stri buti on (%)	Factor(grams/mi l e) Emi ssions by Speed	VMT by Speed
5	0. 09	0. 010467 42, 456518	4, 056. 23
10	0. 27	0. 006184 75. 251105	12, 168. 68
15	0. 43	0. 003505 66. 753661	19, 045. 27
20	0. 37	0. 002355 39. 142523	16, 621. 03
25	1. 40	0. 001992 124. 356357	62, 427. 89
30	3. 92	0. 001712 298. 521834	174, 370. 23
35	9. 60	0. 001500 641. 185445	427, 456. 96
40	4. 55	0. 001347 272. 589274	202, 367. 69
45	5. 01	0. 001240 276. 634613	223, 092. 43
50	14. 12	0. 001179 741. 125304	628, 605. 01
55	15. 26	0. 001171 795. 674287	679, 482. 74
60	11. 10	0. 001207 596. 340676	494, 068. 50
65	15. 77	0. 001311 920. 403104	702, 061. 86
70	18. 11	0. 001455 1, 173. 496046	806, 526. 49
75	0. 00	0. 001700 0. 000000	0. 00
<hr/>			

Total	Hori zon Year_Al t1_corri dor. ec	4, 452, 351. 00
100. 00	6, 063. 930746	

Pollutant Name : CO2

VMT-Speed	Emis sion Factor(grams/mile)	VMT by Speed
VMT-Speed Distribution (%)	Emissions by Speed	
5 0. 09	1, 232. 163000 4, 997, 931. 596838	4, 056. 23
10 0. 27	935. 946000	12, 168. 68
15 0. 43	11, 389, 225. 499388 738. 149000	19, 045. 27
20 0. 37	14, 058, 244. 790783 604. 949000	16, 621. 03
25 1. 40	10, 054, 874. 872521 517. 903000	62, 427. 89
30 3. 92	32, 331, 591. 514670 459. 353000	174, 370. 23
35 9. 60	80, 097, 488. 261190 421. 611000	427, 456. 96
40 4. 55	180, 220, 557. 627393 400. 126000	202, 367. 69
45 5. 01	80, 972, 573. 128562 392. 485000	223, 092. 43
50 14. 12	87, 560, 432. 388550 397. 919000	628, 605. 01
55 15. 26	250, 133, 876. 178352 417. 145000	679, 482. 74
60 11. 10	283, 442, 827. 160155 452. 516000	494, 068. 50
65 15. 77	223, 573, 899. 988452 508. 510000	702, 061. 86
70 18. 11	357, 005, 478. 462640 516. 703000	806, 526. 49
75 0. 00	416, 734, 657. 995876 529. 630000	0. 00
<hr/> Total	0. 000000	4, 452, 351. 00
100. 00	2, 032, 573, 659. 465370	

Pollutant Name : CO

VMT-Speed	Emis sion Factor(grams/mile)	VMT by Speed
VMT-Speed Distribution (%)	Emissions by Speed	
5 0. 09	1. 359000 5, 512. 411134	4, 056. 23
10 0. 27	1. 170000 14, 237. 353260	12, 168. 68
15 0. 43	1. 028000 19, 578. 534476	19, 045. 27
20 0. 37	0. 922000 15, 324. 588738	16, 621. 03
25 1. 40	0. 842000 52, 564. 283380	62, 427. 89
30 3. 92	0. 776000 135, 311. 298480	174, 370. 23
35 9. 60	0. 721000 308, 196. 470323	427, 456. 96

	Hori zon	Year_Alt1_corri dor.ec	
40	0. 676000	202, 367. 69	
45	136, 800. 556412		
45	0. 641000	223, 092. 43	
50	143, 002. 247630		
50	0. 616000	628, 605. 01	
55	387, 220. 684928		
55	0. 603000	679, 482. 74	
60	409, 728. 091617		
60	0. 606000	494, 068. 50	
65	299, 405. 509182		
65	0. 633000	702, 061. 86	
70	444, 405. 159912		
70	0. 721000	806, 526. 49	
75	581, 505. 600732		
75	0. 875000	0. 00	
	0. 000000		
Total	100. 00	4, 452, 351. 00	
		2, 952, 792. 790204	

Pollutant Name : BUTADIENE

speed(mph)	Emissi on	Factor(grams/mile)	VMT by Speed
VMT-Speed	Distribution (%)	Emissions by Speed	
5	0. 09	0. 000633	4, 056. 23
10	0. 27	2. 567591	
10	0. 27	0. 000412	12, 168. 68
15	0. 43	5. 013495	
15	0. 43	0. 000280	19, 045. 27
20	0. 37	5. 332675	
20	0. 37	0. 000207	16, 621. 03
25	1. 40	3. 440553	
25	1. 40	0. 000166	62, 427. 89
30	3. 92	10. 363030	
30	3. 92	0. 000139	174, 370. 23
35	9. 60	24. 237462	
35	9. 60	0. 000123	427, 456. 96
40	4. 55	52. 577206	
40	4. 55	0. 000115	202, 367. 69
45	5. 01	23. 272284	
45	5. 01	0. 000112	223, 092. 43
50	14. 12	24. 986352	
50	14. 12	0. 000116	628, 605. 01
55	15. 26	72. 918181	
55	15. 26	0. 000129	679, 482. 74
60	11. 10	87. 653273	
60	11. 10	0. 000148	494, 068. 50
65	15. 77	73. 122138	
65	15. 77	0. 000181	702, 061. 86
70	18. 11	127. 073197	
70	18. 11	0. 000217	806, 526. 49
75	0. 00	175. 016249	
		0. 000276	0. 00
		0. 000000	
Total	100. 00	4, 452, 351. 00	
		687. 573686	

Pollutant Name : BENZENE

VMT-Speed	speed(mph)	Emission Distribution (%)	Horizon Year_Al t1_corridor_ec Factor(grams/mile)	VMT by Speed
			Emissions by Speed	
	5	0.09	0.003521 14.281972	4,056.23
	10	0.27	0.002238 27.233501	12,168.68
	15	0.43	0.001463 27.863226	19,045.27
	20	0.37	0.001058 17.585049	16,621.03
	25	1.40	0.000856 53.438274	62,427.89
	30	3.92	0.000719 125.372195	174,370.23
	35	9.60	0.000633 270.580258	427,456.96
	40	4.55	0.000586 118.587465	202,367.69
	45	5.01	0.000564 125.824131	223,092.43
	50	14.12	0.000576 362.076485	628,605.01
	55	15.26	0.000627 426.035677	679,482.74
	60	11.10	0.000707 349.306427	494,068.50
	65	15.77	0.000846 593.944337	702,061.86
	70	18.11	0.001001 807.333018	806,526.49
	75	0.00	0.001254 0.000000	0.00
-----	Total	100.00	3,319.462014	4,452,351.00

Pollutant Name : ACROLEIN

VMT-Speed	speed(mph)	Emission Factor(grams/mile)	VMT by Speed
		Emissions by Speed	
	5	0.000124 0.502972	4,056.23
	10	0.000083 1.010000	12,168.68
	15	0.000058 1.104625	19,045.27
	20	0.000044 0.731325	16,621.03
	25	0.000035 2.184976	62,427.89
	30	0.000029 5.056737	174,370.23
	35	0.000026 11.113881	427,456.96
	40	0.000024 4.856824	202,367.69
	45	0.000024 5.354218	223,092.43
	50	0.000025 15.715125	628,605.01

	Horizon Year_Al t1_corridor.ec	
55	0. 000028	679, 482. 74
15. 26	19. 025517	
60	0. 000032	494, 068. 50
11. 10	15. 810192	
65	0. 000040	702, 061. 86
15. 77	28. 082475	
70	0. 000048	806, 526. 49
18. 11	38. 713272	
75	0. 000061	0. 00
0. 00	0. 000000	
<hr/> Total	100. 00	4, 452, 351. 00
	149. 262140	

Pollutant Name : ACETALDEHYDE

speed(mph) VMT-Speed	Emission Factor(grams/mile) Emissions by Speed	VMT by Speed
5	0. 004771	4, 056. 23
0. 09	19. 352254	
10	0. 002785	12, 168. 68
0. 27	33. 889768	
15	0. 001537	19, 045. 27
0. 43	29. 272575	
20	0. 001017	16, 621. 03
0. 37	16. 903586	
25	0. 000869	62, 427. 89
1. 40	54. 249836	
30	0. 000751	174, 370. 23
3. 92	130. 952043	
35	0. 000658	427, 456. 96
9. 60	281. 266682	
40	0. 000587	202, 367. 69
4. 55	118. 789832	
45	0. 000536	223, 092. 43
5. 01	119. 577542	
50	0. 000501	628, 605. 01
14. 12	314. 931109	
55	0. 000487	679, 482. 74
15. 26	330. 908094	
60	0. 000490	494, 068. 50
11. 10	242. 093564	
65	0. 000516	702, 061. 86
15. 77	362. 263922	
70	0. 000562	806, 526. 49
18. 11	453. 267889	
75	0. 000642	0. 00
0. 00	0. 000000	
<hr/> Total	100. 00	4, 452, 351. 00
	2, 507. 718697	

Idling Emissions (grams) (Currently NOT Available)

Horizon Year_Al t1_corridor.ec

Evaporative Running Loss Emissions (grams)

Pollutant Name : TOG_Ilos

Emissions	Emission Factor(grams/min)	total running time(hrs)
91,954.763420	0.017000	90,151.73

Pollutant Name : FORMALDEHYDE

Emissions	Emission Factor(grams/min)	total running time(hrs)
0.000000	0.000000	90,151.73

Pollutant Name : BUTADIENE

Emissions	Emission Factor(grams/min)	total running time(hrs)
5.409104	0.000001	90,151.73

Pollutant Name : BENZENE

Emissions	Emission Factor(grams/min)	total running time(hrs)
903.320323	0.000167	90,151.73

Pollutant Name : ACROLEIN

Emissions	Emission Factor(grams/min)	total running time(hrs)
0.000000	0.000000	90,151.73

Pollutant Name : ACETALDEHYDE

Emissions	Emission Factor(grams/min)	total running time(hrs)
0.000000	0.000000	90,151.73

		Hori zon Year_Al t1_corri dor. ec
Total Emissions		
-----	-----	-----
Pollutant Name	Total Emissions (grams)	Total Emissions (Kilograms)
Total Emissions (US Tons)		
TOG	244,781,908726	244,781909
0.269825867		
S02	19,564,091303	19,564091
0.021565719		
Diesel_PM	17,730,662599	17,730663
0.019544710		
PM2.5	77,512,852687	77,512853
0.0854443294		
PM10	83,883,484740	83,883485
0.092465714		
NOX	635,994,967999	635,994968
0.701064447		
FORMALDEHYDE	6,063,930746	6,063931
0.006684339		
C02	2,032,573,659,465370	2,032,573,659465
2,240,528935116		
CO	2,952,792,790204	2,952,792790
3.254896891		
BUTADIENE	692,982790	0.692983
0.000763883		
BENZENE	4,222,782337	4,222782
0.004654821		
ACROLEIN	149,262140	0.149262
0.000164533		
ACETALDEHYDE	2,507,718697	2,507719
0.002764287		

END-----

Horizon Year_Al_t1_surrounding_ec

Title :	Horizon Year												
Version :	CT-EMFAC 2.6												
Run Date :	11 October 2012 10:59 AM												
Scen Year :	2040												
Season :	Annual												
Temperature :	68F												
Relative Humidity :	59%												
Area :	Orange County												
Peak User Input :													
Number of Hours	Total VMT	Volume (vph)											Road Length(mi)
	1427094												
55 60 65 70 (mph)	>75	VMT	5	10	15	20	by	Speed(mph)	35	40	45	50	
1.8 2.8 5.6 %			.1	3.4	11.4	9.1		24.6	31.1	9.8	.3		
Offpeak User Input:													
Number of Hours	Total VMT	Volume (vph)											Road Length(mi)
	934112												
55 60 65 70 (mph)	>75	VMT	5	10	15	20	by	Speed(mph)	35	40	45	50	
8.2 %									9	52.7	29.5	.6	

Running Exhaust Emissions (grams)

Pollutant Name : TOG_exh

speed(mph)	Emission Factor(grams/mile)	VMT by Speed
VMT-Speed	Distribution (%)	Emissions by Speed
5	0.169000 0.000000	0.00
10	0.107000 0.000000	0.00
15	0.070000 0.0699.896580	1,427.09
20	0.050000 2,426.059800	48,521.20
25	0.040000 6,507.548640	162,688.72
30	0.034000 4,415.428836	129,865.55
35	0.030000 13,054.056120	435,135.20
40	0.027000 25,274.787966	936,103.26
45	0.026000 10,800.874552	415,418.25
50	0.027000 Page 1	9,885.95

	Horizon Year	Alt1_surrounding_ec	
55	0.42	266,920758	
60	0.00	0.029000	0.00
65	1.09	0.000000	
70	1.69	0.032000	25,687.69
75	6.63	822,006144	
		0.039000	39,958.63
		1,558,386648	
		0.045000	156,514.45
		7,043,150160	
		0.056000	0.00
		0.000000	
Total	100.00	72,269.116204	2,361,206.00

Pollutant Name : SO2

VMT-Speed	Speed(mph)	Emission Factor(grams/mile)	Emissions by Speed	VMT by Speed
5	0.00	0.012000	0.000000	0.00
10	0.00	0.009000	0.000000	0.00
15	0.06	0.007000	9,989658	1,427.09
20	2.05	0.006000	291,127176	48,521.20
25	6.89	0.005000	813,443580	162,688.72
30	5.50	0.004000	519,462216	129,865.55
35	18.43	0.004000	1,740,540816	435,135.20
40	39.65	0.004000	3,744,413032	936,103.26
45	17.59	0.004000	0.004000	415,418.25
50	0.42	0.004000	1,661,673008	9,885.95
55	0.00	0.004000	39,543816	0.00
60	1.09	0.004000	0.000000	
65	1.69	0.004000	102,750768	25,687.69
70	6.63	0.005000	0.005000	39,958.63
75	0.00	0.005000	199,793160	156,514.45
		0.005000	782,572240	
		0.005000	0.000000	0.00
Total	100.00	9,905.309470	2,361,206.00	

Pollutant Name : Diesel_PM

VMT-Speed	Speed(mph)	Emission Factor(grams/mile)	Emissions by Speed	VMT by Speed
5	0.00	0.008052	0.000000	0.00

		Horizon	Year_Al	t1_surrounding_ec	
10	0.00	0.006512		0.00	
		0.000000			
15	0.06	0.005368		1,427.09	
		7.660641			
20	2.05	0.004532		48,521.20	
		219.898060			
25	6.89	0.003960		162,688.72	
		644.247315			
30	5.50	0.003608		129,865.55	
		468.554919			
35	18.43	0.003388		435,135.20	
		1,474.238071			
40	39.65	0.003300		936,103.26	
		3,089.140751			
45	17.59	0.003344		415,418.25	
		1,389.158635			
50	0.42	0.003476		9,885.95	
		34.363576			
55	0.00	0.003696		0.00	
		0.000000			
60	1.09	0.004004		25,687.69	
		102.853519			
65	1.69	0.004400		39,958.63	
		175.817981			
70	6.63	0.004884		156,514.45	
		764.416564			
75	0.00	0.005456		0.00	
		0.000000			
<hr/>					
Total	100.00		8,370.350032		2,361,206.00

Pollutant Name : PM2.5

VMT-Speed	speed(mph)	Emission Factor(grams/mile)	Emissions by Speed	VMT by Speed
5	0.00	0.091000	0.000000	0.00
10	0.00	0.060000	0.000000	0.00
15	0.06	0.042000	59.937948	1,427.09
20	2.05	0.031000	1,504.157076	48,521.20
25	6.89	0.024000	3,904.529184	162,688.72
30	5.50	0.019000	2,467.445526	129,865.55
35	18.43	0.017000	7,397.298468	435,135.20
40	39.65	0.015000	14,041.548870	936,103.26
45	17.59	0.014000	5,815.855528	415,418.25
50	0.42	0.014000	138.403356	9,885.95
55	0.00	0.015000	0.000000	0.00
60	1.09	0.017000	436.690764	25,687.69
65		0.019000		39,958.63

	Hori zon	Year_Al t1_surroundi ng. ec	
70	1. 69	759. 214008	
		0. 020000	156, 514. 45
75	6. 63	3, 130. 288960	
		0. 020000	0. 00
	0. 00	0. 000000	
<hr/>			
Total			2, 361, 206. 00
	100. 00	39, 655. 369688	

Pollutant Name : PM10

speed(mph)	Emi ssi on	Factor(grams/mile)	VMT by Speed
VMT-Speed	Di stri buti on (%)	Emi ssions by Speed	
5	0. 00	0. 098000 0. 000000	0. 00
10	0. 00	0. 065000 0. 000000	0. 00
15	0. 06	0. 045000 64. 219230	1, 427. 09
20	2. 05	0. 033000 1, 601. 199468	48, 521. 20
25	6. 89	0. 026000 4, 229. 906616	162, 688. 72
30	5. 50	0. 021000 2, 727. 176634	129, 865. 55
35	18. 43	0. 018000 7, 832. 433672	435, 135. 20
40	39. 65	0. 016000 14, 977. 652128	936, 103. 26
45	17. 59	0. 016000 6, 646. 692032	415, 418. 25
50	0. 42	0. 016000 158. 175264	9, 885. 95
55	0. 00	0. 016000 0. 000000	0. 00
60	1. 09	0. 018000 462. 378456	25, 687. 69
65	1. 69	0. 021000 839. 131272	39, 958. 63
70	6. 63	0. 021000 3, 286. 803408	156, 514. 45
75	0. 00	0. 022000 0. 000000	0. 00
<hr/>			
Total			2, 361, 206. 00
	100. 00	42, 825. 768180	

Pollutant Name : NOX

speed(mph)	Emi ssi on	Factor(grams/mile)	VMT by Speed
VMT-Speed	Di stri buti on (%)	Emi ssions by Speed	
5	0. 00	0. 264000 0. 000000	0. 00
10	0. 00	0. 213000 0. 000000	0. 00
15	0. 06	0. 176000 251. 168544	1, 427. 09
20	2. 05	0. 152000 7, 375. 221792	48, 521. 20

		Horizon	Year_Al t1_surrounding_ec	
25	6. 89	0. 139000	162, 688. 72	
30	5. 50	22, 613. 731524		129, 865. 55
35	18. 43	0. 130000		435, 135. 20
40	39. 65	16, 882. 522020		936, 103. 26
45	17. 59	0. 124000		415, 418. 25
50	0. 42	53, 956. 765296		9, 885. 95
55	0. 00	0. 120000		0. 00
60	1. 09	112, 332. 390960		25, 687. 69
65	1. 69	0. 120000		39, 958. 63
70	6. 63	49, 850. 190240		156, 514. 45
75	0. 00	0. 123000		0. 00
		1, 215. 972342		
		0. 129000		
		0. 000000		
		0. 140000		
		3, 596. 276880		
		0. 158000		
		6, 313. 463856		
		0. 181000		
		28, 329. 115088		
		0. 217000		
		0. 000000		
<hr/>				
Total	100. 00	302, 716. 818542		2, 361, 206. 00

Pollutant Name : FORMALDEHYDE

VMT-Speed	speed(mph)	Emission Factor(grams/mile)	VMT by Speed
VMT-Speed	Distribution (%)	Emissions by Speed	
5	0. 00	0. 010467	0. 00
10	0. 00	0. 000000	0. 00
15	0. 06	0. 006184	0. 00
20	2. 05	0. 003505	1, 427. 09
25	6. 89	5. 001964	162, 688. 72
30	5. 50	0. 002355	48, 521. 20
35	18. 43	114. 267417	
40	39. 65	0. 001992	129, 865. 55
45	17. 59	324. 075922	435, 135. 20
50	0. 42	0. 001712	936, 103. 26
55	0. 00	222. 329828	415, 418. 25
60	1. 09	0. 001500	9, 885. 95
65	1. 69	652. 702806	0. 00
70	6. 63	0. 001347	
75	0. 00	1, 260. 931089	
		0. 001240	
		515. 118632	
		0. 001179	
		11. 655540	
		0. 001171	
		0. 000000	
		0. 001207	
		31. 005044	
		0. 001311	
		52. 385767	
		0. 001455	
		227. 728522	
		0. 001700	
		0. 000000	
<hr/>			

Total	Horizon Year_Al t1_surrounding_ec	2, 361, 206. 00
100. 00	3, 417. 202531	

Pollutant Name : CO2

VMT-Speed	Emission Factor(grams/mile)	VMT by Speed
5 0. 00	1, 232. 163000 0. 000000	0. 00
10 0. 00	935. 946000 0. 000000	0. 00
15 0. 06	738. 149000 1, 053, 408. 009006	1, 427. 09
20 2. 05	604. 949000 29, 352, 848. 999004	48, 521. 20
25 6. 89	517. 903000 84, 256, 974. 082548	162, 688. 72
30 5. 50	459. 353000 59, 654, 131. 826562	129, 865. 55
35 18. 43	421. 611000 183, 457, 788. 493644	435, 135. 20
40 39. 65	392. 485000 374, 559, 252. 210508	415, 418. 25
45 17. 59	392. 485000 163, 045, 432. 636220	936, 103. 26
50 0. 42	397. 919000 3, 933, 808. 929726	0. 00
55 0. 00	417. 145000 0. 000000	9, 885. 95
60 1. 09	452. 516000 11, 624, 091. 633072	0. 00
65 1. 69	508. 510000 20, 319, 363. 958320	39, 958. 63
70 6. 63	516. 703000 80, 871, 484. 824944	156, 514. 45
75 0. 00	529. 630000 0. 000000	0. 00
<hr/> Total	<hr/> 100. 00	<hr/> 2, 361, 206. 00
		1, 012, 128, 585. 603550

Pollutant Name : CO

VMT-Speed	Emission Factor(grams/mile)	VMT by Speed
5 0. 00	1. 359000 0. 000000	0. 00
10 0. 00	1. 170000 0. 000000	0. 00
15 0. 06	1. 028000 1, 467. 052632	1, 427. 09
20 2. 05	0. 922000 44, 736. 542712	48, 521. 20
25 6. 89	0. 842000 136, 983. 898872	162, 688. 72
30 5. 50	0. 776000 100, 775. 669904	129, 865. 55
35 18. 43	0. 721000 313, 732. 482084	435, 135. 20

	Horizon	Year_Al t1_surrounding_ec	
40	0. 676000	936, 103. 26	
39. 65	632, 805. 802408		
45	0. 641000	415, 418. 25	
17. 59	266, 283. 099532		
50	0. 616000	9, 885. 95	
0. 42	6, 089. 747664		
55	0. 603000	0. 00	
0. 00	0. 000000		
60	0. 606000	25, 687. 69	
1. 09	15, 566. 741352		
65	0. 633000	39, 958. 63	
1. 69	25, 293. 814056		
70	0. 721000	156, 514. 45	
6. 63	112, 846. 917008		
75	0. 875000	0. 00	
0. 00	0. 000000		
<hr/>			
Total	100. 00	1, 656, 581. 768224	2, 361, 206. 00

Pollutant Name : BUTADIENE

speed(mph) VMT-Speed	Emission Factor(grams/mile) Distribution (%)	Emissions by Speed	VMT by Speed
5	0. 00	0. 000633 0. 000000	0. 00
10	0. 00	0. 000412 0. 000000	0. 00
15	0. 06	0. 000280 0. 399586	1, 427. 09
20	2. 05	0. 000207 10. 043888	48, 521. 20
25	6. 89	0. 000166 27. 006327	162, 688. 72
30	5. 50	0. 000139 18. 051312	129, 865. 55
35	18. 43	0. 000123 53. 521630	435, 135. 20
40	39. 65	0. 000115 107. 651875	936, 103. 26
45	17. 59	0. 000112 46. 526844	415, 418. 25
50	0. 42	0. 000116 1. 146771	9, 885. 95
55	0. 00	0. 000129 0. 000000	0. 00
60	1. 09	0. 000148 3. 801778	25, 687. 69
65	1. 69	0. 000181 7. 232512	39, 958. 63
70	6. 63	0. 000217 33. 963635	156, 514. 45
75	0. 00	0. 000276 0. 000000	0. 00
<hr/>			
Total	100. 00	309. 346158	2, 361, 206. 00

Pollutant Name : BENZENE

VMT-Speed	Horizon Year	Alt1_surrounding_ec	VMT by Speed
speed(mph)	Emission Factor(grams/mile)	Emissions by Speed	
VMT-Speed	Distribution (%)		
5	0. 00	0. 003521 0. 000000	0. 00
10	0. 00	0. 002238 0. 000000	0. 00
15	0. 06	0. 001463 2. 087839	1, 427. 09
20	2. 05	0. 001058 51. 335425	48, 521. 20
25	6. 89	0. 000856 139. 261541	162, 688. 72
30	5. 50	0. 000719 93. 373333	129, 865. 55
35	18. 43	0. 000633 275. 440584	435, 135. 20
40	39. 65	0. 000586 548. 556509	936, 103. 26
45	17. 59	0. 000564 234. 295894	415, 418. 25
50	0. 42	0. 000576 5. 694310	9, 885. 95
55	0. 00	0. 000627 0. 000000	0. 00
60	1. 09	0. 000707 18. 161198	25, 687. 69
65	1. 69	0. 000846 33. 805003	39, 958. 63
70	6. 63	0. 001001 156. 670962	156, 514. 45
75	0. 00	0. 001254 0. 000000	0. 00
<hr/>			
Total	100. 00	1, 558. 682598	2, 361, 206. 00

Pollutant Name : ACROLEIN

VMT-Speed	Horizon Year	Alt1_surrounding_ec	VMT by Speed
speed(mph)	Emission Factor(grams/mile)	Emissions by Speed	
VMT-Speed	Distribution (%)		
5	0. 00	0. 000124 0. 000000	0. 00
10	0. 00	0. 000083 0. 000000	0. 00
15	0. 06	0. 000058 0. 082771	1, 427. 09
20	2. 05	0. 000044 2. 134933	48, 521. 20
25	6. 89	0. 000035 5. 694105	162, 688. 72
30	5. 50	0. 000029 3. 766101	129, 865. 55
35	18. 43	0. 000026 11. 313515	435, 135. 20
40	39. 65	0. 000024 22. 466478	936, 103. 26
45	17. 59	0. 000024 9. 970038	415, 418. 25
50	0. 42	0. 000025 0. 247149	9, 885. 95

		Horizon Year_Al_t1_surrounding_ec	
55	0. 00	0. 000028 0. 000000	0. 00
60	1. 09	0. 000032 0. 822006	25, 687. 69
65	1. 69	0. 000040 1. 598345	39, 958. 63
70	6. 63	0. 000048 7. 512694	156, 514. 45
75	0. 00	0. 000061 0. 000000	0. 00
<hr/>			
Total	100. 00	65. 608136	2, 361, 206. 00

Pollutant Name : ACETALDEHYDE

speed(mph) VMT-Speed	Emission Factor(grams/mile) Emissions by Speed	VMT by Speed
5 0. 00	0. 004771 0. 000000	0. 00
10 0. 00	0. 002785 0. 000000	0. 00
15 0. 06	0. 001537 2. 193443	1, 427. 09
20 2. 05	0. 001017 49. 346056	48, 521. 20
25 6. 89	0. 000869 141. 376494	162, 688. 72
30 5. 50	0. 000751 97. 529031	129, 865. 55
35 18. 43	0. 000658 286. 318964	435, 135. 20
40 39. 65	0. 000587 549. 492612	936, 103. 26
45 17. 59	0. 000536 222. 664183	415, 418. 25
50 0. 42	0. 000501 4. 952863	9, 885. 95
55 0. 00	0. 000487 0. 000000	0. 00
60 1. 09	0. 000490 12. 586969	25, 687. 69
65 1. 69	0. 000516 20. 618654	39, 958. 63
70 6. 63	0. 000562 87. 961120	156, 514. 45
75 0. 00	0. 000642 0. 000000	0. 00
<hr/>		
Total	100. 00	2, 361, 206. 00
		1, 475. 040391

Idling Emissions (grams) (Currently NOT Available)

Horizon Year_Al t1_surrounding_ec

Evaporative Running Loss Emissions (grams)

Pollutant Name : TOG_Los

Emissions	Emission Factor(grams/min)	total running time(hrs)
63,138.661522	0.017000	61,900.65

Pollutant Name : FORMALDEHYDE

Emissions	Emission Factor(grams/min)	total running time(hrs)
0.000000	0.000000	61,900.65

Pollutant Name : BUTADIENE

Emissions	Emission Factor(grams/min)	total running time(hrs)
3.714039	0.000001	61,900.65

Pollutant Name : BENZENE

Emissions	Emission Factor(grams/min)	total running time(hrs)
620.244498	0.000167	61,900.65

Pollutant Name : ACROLEIN

Emissions	Emission Factor(grams/min)	total running time(hrs)
0.000000	0.000000	61,900.65

Pollutant Name : ACETALDEHYDE

Emissions	Emission Factor(grams/min)	total running time(hrs)
0.000000	0.000000	61,900.65

		Hori zon Year_Al t1_surroundi ng. ec
Total Emissions		
-----	-----	-----
Pollutant Name	Total Emissions (grams)	Total Emissions (Kilograms)
Total Emissions (US Tons)		
TOG	135,407,777.26	135,407,778
0.149261525		
S02	9,905,309.470	9,905,309
0.010918735		
Diesel_PM	8,370,350.032	8,370,350
0.009226732		
PM2.5	39,655,369.688	39,655,370
0.043712563		
PM10	42,825,768.180	42,825,768
0.047207329		
NOX	302,716,818.542	302,716,819
0.333688173		
FORMALDEHYDE	3,417,202.531	3,417,203
0.003766821		
C02	1,012,128,585.603550	1,012,128,585.604
1,115,680788021		
CO	1,656,581,768.224	1,656,581,768
1.826068821		
BUTADIENE	313,060.197	0,313,060
0.000345090		
BENZENE	2,178,927.097	2,178,927
0.002401856		
ACROLEIN	65,608.136	0,065,608
0.000072321		
ACETALDEHYDE	1,475,040.391	1,475,040
0.001625954		

END-----

Horizon Year_At2廊道.ec

Title : Horizon Year
 Version : CT-EMFAC 2.6
 Run Date : 11 October 2012 02:54 PM
 Scen Year : 2040
 Season : Annual
 Temperature : 68F
 Relative Humidity : 59%
 Area : Orange County

Peak User Input :
 Number of Hours : Total VMT Volume (vph) Road Length(mi)
 2073290

	55	60	65	70	>75	VMT	5	10	15	20	by Speed(mph)	35	40	45	50	
55	6.2	15.8	12.3	1.1		%	.1	.7	.6	.7	3.1	9.8	8.5	4.7	11.8	24.6
60	11.1	14.5	27.2	33.8												

Offpeak User Input:
 Number of Hours : Total VMT Volume (vph) Road Length(mi)
 2453396

	55	60	65	70	>75	VMT	5	10	15	20	by Speed(mph)	35	40	45	50
55	11.1	14.5	27.2	33.8		%	.1	.1	.2	.3	.5	4.9	.4	.3	6.6
60															

Running Exhaust Emissions (grams)

Polutant Name : TOG_exh

speed(mph)	Emission Factor(grams/mile)	VMT by Speed
VMT-Speed	Distribution (%)	Emissions by Speed
5	0. 169000	2, 073. 29
10	350. 386010	16, 966. 43
15	0. 107000	14, 893. 14
20	1, 815. 407582	19, 419. 82
25	0. 070000	71, 632. 18
30	1, 042. 519520	215, 449. 40
35	0. 050000	296, 446. 05
40	970. 991100	107, 258. 21
45	2, 865. 287120	252, 008. 41
50	0. 040000	
	0. 034000	
	7, 325. 279600	
	0. 030000	
	8, 893. 381620	
	0. 027000	
	2, 895. 971778	
	0. 026000	
	6, 552. 218608	
	0. 027000	671, 953. 48

Horizon Year_Al t2_corridor.ec			
14. 84		18, 142. 743852	
55		0. 029000	400, 870. 94
8. 86		11, 625. 257144	
60		0. 032000	683, 322. 24
15. 10		21, 866. 311680	
65		0. 039000	922, 338. 38
20. 38		35, 971. 196898	
70		0. 045000	852, 054. 04
18. 82		38, 342. 431710	
75		0. 056000	0. 00
0. 00		0. 000000	
<hr/>			
Total	100. 00	158, 659. 384222	4, 526, 686. 00

Pollutant Name : SO2

VMT-Speed	Speed(mph)	Emission Factor(grams/mile)	Emissions by Speed	VMT by Speed
	5	0. 012000	2, 073. 29	
	0. 05	24. 879480		
	10	0. 009000	16, 966. 43	
	0. 37	152. 697834		
	15	0. 007000	14, 893. 14	
	0. 33	104. 251952		
	20	0. 006000	19, 419. 82	
	0. 43	116. 518932		
	25	0. 005000	71, 632. 18	
	1. 58	358. 160890		
	30	0. 004000	215, 449. 40	
	4. 76	861. 797600		
	35	0. 004000	296, 446. 05	
	6. 55	1, 185. 784216		
	40	0. 004000	107, 258. 21	
	2. 37	429. 032856		
	45	0. 004000	252, 008. 41	
	5. 57	1, 008. 033632		
	50	0. 004000	671, 953. 48	
	14. 84	2, 687. 813904		
	55	0. 004000	400, 870. 94	
	8. 86	1, 603. 483744		
	60	0. 004000	683, 322. 24	
	15. 10	2, 733. 288960		
	65	0. 005000	922, 338. 38	
	20. 38	4, 611. 691910		
	70	0. 005000	852, 054. 04	
	18. 82	4, 260. 270190		
	75	0. 005000	0. 00	
	0. 00	0. 000000		
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Total	100. 00	20, 137. 706100	4, 526, 686. 00	

Pollutant Name : Diesel_PM

VMT-Speed	Speed(mph)	Emission Factor(grams/mile)	Emissions by Speed	VMT by Speed
	5	0. 008052	2, 073. 29	
	0. 05	16. 694131		

		Hori zon Year_Al t2_corri dor. ec	
10	0. 37	0. 006512 110. 485366	16, 966. 43
15	0. 33	0. 005368 79. 946354	14, 893. 14
20	0. 43	0. 004532 88. 010633	19, 419. 82
25	1. 58	0. 003960 283. 663425	71, 632. 18
30	4. 76	0. 003608 777. 341435	215, 449. 40
35	6. 55	0. 003388 1, 004. 359231	296, 446. 05
40	2. 37	0. 003300 353. 952106	107, 258. 21
45	5. 57	0. 003344 842. 716116	252, 008. 41
50	14. 84	0. 003476 2, 335. 710283	671, 953. 48
55	8. 86	0. 003696 1, 481. 618979	400, 870. 94
60	15. 10	0. 004004 2, 736. 022249	683, 322. 24
65	20. 38	0. 004400 4, 058. 288881	922, 338. 38
70	18. 82	0. 004884 4, 161. 431922	852, 054. 04
75	0. 00	0. 005456 0. 000000	0. 00
<hr/>			
Total	100. 00	18, 330. 241112	4, 526, 686. 00

Po l lutant Name : PM2. 5

speed(mph) VMT-Speed	Emis sion Factor(grams/mile) Di stri bution (%)	Emis sions by Speed	VMT by Speed
5	0. 05	0. 091000 188. 669390	2, 073. 29
10	0. 37	0. 060000 1, 017. 985560	16, 966. 43
15	0. 33	0. 042000 625. 511712	14, 893. 14
20	0. 43	0. 031000 602. 014482	19, 419. 82
25	1. 58	0. 024000 1, 719. 172272	71, 632. 18
30	4. 76	0. 019000 4, 093. 538600	215, 449. 40
35	6. 55	0. 017000 5, 039. 582918	296, 446. 05
40	2. 37	0. 015000 1, 608. 873210	107, 258. 21
45	5. 57	0. 014000 3, 528. 117712	252, 008. 41
50	14. 84	0. 014000 9, 407. 348664	671, 953. 48
55	8. 86	0. 015000 6, 013. 064040	400, 870. 94
60	15. 10	0. 017000 11, 616. 478080	683, 322. 24
65		0. 019000	922, 338. 38

		Hori zon Year_Al t2_corri dor. ec	
20. 38		17, 524. 429258	
70		0. 020000	852, 054. 04
18. 82		17, 041. 080760	
75		0. 020000	0. 00
0. 00		0. 000000	
<hr/>			
Total	100. 00	80, 025. 866658	4, 526, 686. 00

Pollutant Name : PM10

speed(mph)	Emis sion Factor(grams/mile)	VMT by Speed
VMT-Speed	Di stri buti on (%)	Emis sions by Speed
5	0. 098000	2, 073. 29
0. 05	203. 182420	
10	0. 065000	16, 966. 43
0. 37	1, 102. 817690	
15	0. 045000	14, 893. 14
0. 33	670. 191120	
20	0. 033000	19, 419. 82
0. 43	640. 854126	
25	0. 026000	71, 632. 18
1. 58	1, 862. 436628	
30	0. 021000	215, 449. 40
4. 76	4, 524. 437400	
35	0. 018000	296, 446. 05
6. 55	5, 336. 028972	
40	0. 016000	107, 258. 21
2. 37	1, 716. 131424	
45	0. 016000	252, 008. 41
5. 57	4, 032. 134528	
50	0. 016000	671, 953. 48
14. 84	10, 751. 255616	
55	0. 016000	400, 870. 94
8. 86	6, 413. 934976	
60	0. 018000	683, 322. 24
15. 10	12, 299. 800320	
65	0. 021000	922, 338. 38
20. 38	19, 369. 106022	
70	0. 021000	852, 054. 04
18. 82	17, 893. 134798	
75	0. 022000	0. 00
0. 00	0. 000000	
<hr/>		
Total	100. 00	86, 815. 446040
		4, 526, 686. 00

Pollutant Name : NOX

speed(mph)	Emis sion Factor(grams/mile)	VMT by Speed
VMT-Speed	Di stri buti on (%)	Emis sions by Speed
5	0. 264000	2, 073. 29
0. 05	547. 348560	
10	0. 213000	16, 966. 43
0. 37	3, 613. 848738	
15	0. 176000	14, 893. 14
0. 33	2, 621. 191936	
20	0. 152000	19, 419. 82
0. 43	2, 951. 812944	

		Hori zon Year_Al t2_corri dor. ec	
25	1. 58	0. 139000 9, 956. 872742	71, 632. 18
30	4. 76	0. 130000 28, 008. 422000	215, 449. 40
35	6. 55	0. 124000 36, 759. 310696	296, 446. 05
40	2. 37	0. 120000 12, 870. 985680	107, 258. 21
45	5. 57	0. 120000 30, 241. 008960	252, 008. 41
50	14. 84	0. 123000 82, 650. 277548	671, 953. 48
55	8. 86	0. 129000 51, 712. 350744	400, 870. 94
60	15. 10	0. 140000 95, 665. 113600	683, 322. 24
65	20. 38	0. 158000 145, 729. 464356	922, 338. 38
70	18. 82	0. 181000 154, 221. 780878	852, 054. 04
75	0. 00	0. 217000 0. 000000	0. 00
<hr/>			
Total		100. 00 657, 549. 789382	4, 526, 686. 00

Po l lutant Name : FORMALDEHYDE

speed(mph) VMT-Speed	Emi ssi on Di stri buti on (%)	Factor(grams/mi le) Emi ssions by Speed	VMT by Speed
5	0. 05	0. 010467 21. 701126	2, 073. 29
10	0. 37	0. 006184 104. 920378	16, 966. 43
15	0. 33	0. 003505 52. 200442	14, 893. 14
20	0. 43	0. 002355 45. 733681	19, 419. 82
25	1. 58	0. 001992 142. 691299	71, 632. 18
30	4. 76	0. 001712 368. 849373	215, 449. 40
35	6. 55	0. 001500 444. 669081	296, 446. 05
40	2. 37	0. 001347 144. 476814	107, 258. 21
45	5. 57	0. 001240 312. 490426	252, 008. 41
50	14. 84	0. 001179 792. 233148	671, 953. 48
55	8. 86	0. 001171 469. 419866	400, 870. 94
60	15. 10	0. 001207 824. 769944	683, 322. 24
65	20. 38	0. 001311 1, 209. 185619	922, 338. 38
70	18. 82	0. 001455 1, 239. 738625	852, 054. 04
75	0. 00	0. 001700 0. 000000	0. 00
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Total	Hori zon Year_Al t2_corri dor. ec	4, 526, 686. 00
100. 00	6, 173. 079822	

Pollutant Name : CO2

VMT-Speed	Emis sion Factor(grams/mile)	VMT by Speed
VMT-Speed	Distribution (%)	Emissions by Speed
5	1, 232. 163000	2, 073. 29
10	2, 554. 631. 226270	16, 966. 43
15	935. 946000	14, 893. 14
20	15, 879, 658. 548996	19, 419. 82
25	738. 149000	71, 632. 18
30	10, 993, 353. 445264	215, 449. 40
35	604. 949000	296, 446. 05
40	11, 748, 001. 899078	107, 258. 21
45	517. 903000	252, 008. 41
50	37, 098, 519. 882734	671, 953. 48
55	459. 353000	400, 870. 94
60	98, 967, 328. 238200	683, 322. 24
65	421. 611000	922, 338. 38
70	124, 984, 917. 272994	852, 054. 04
75	400. 126000	0. 00
80	42, 916, 800. 134964	
85	392. 485000	
90	98, 909, 520. 013880	
95	397. 919000	
100	267, 383, 055. 216444	
105	417. 145000	
110	167, 221, 306. 597720	
115	452. 516000	
120	309, 214, 246. 755840	
125	508. 510000	
130	469, 018, 290. 630820	
135	516. 703000	
140	440, 258, 877. 596714	
145	529. 630000	
150	0. 000000	

Total	100. 00	4, 526, 686. 00
		2, 097, 148, 507. 459920

Pollutant Name : CO

VMT-Speed	Emis sion Factor(grams/mile)	VMT by Speed
VMT-Speed	Distribution (%)	Emissions by Speed
5	1. 359000	2, 073. 29
10	2, 817. 601110	16, 966. 43
15	1. 170000	14, 893. 14
20	19, 850. 718420	19, 419. 82
25	1. 028000	71, 632. 18
30	15, 310. 143808	215, 449. 40
35	0. 922000	296, 446. 05
40	17, 905. 075884	
45	0. 842000	
50	60, 314. 293876	
55	0. 776000	
60	167, 188. 734400	
65	0. 721000	
70	213, 737. 604934	

	Hori zon Year_Al t2_corri dor. ec	
40	0. 676000	107, 258. 21
45	72, 506. 552664	
45	0. 641000	252, 008. 41
50	161, 537. 389528	
50	0. 616000	671, 953. 48
55	413, 923. 341216	
55	0. 603000	400, 870. 94
60	241, 725. 174408	
60	0. 606000	683, 322. 24
65	414, 093. 277440	
65	0. 633000	922, 338. 38
70	583, 840. 195806	
70	0. 721000	852, 054. 04
75	614, 330. 961398	
75	0. 875000	0. 00
	0. 000000	
Total	100. 00	4, 526, 686. 00
	2, 999, 081. 064892	

Pollutant Name : BUTADIENE

speed(mph) VMT-Speed	Emissi on Factor(grams/mile) Di stri bution (%)	Emissi ons by Speed	VMT by Speed
5	0. 000633	0. 000633	2, 073. 29
10	1. 312393		
10	0. 000412	0. 000412	16, 966. 43
15	6. 990168		
15	0. 000280	0. 000280	14, 893. 14
20	4. 170078		
20	0. 000207	0. 000207	19, 419. 82
25	4. 019903		
25	0. 000166	0. 000166	71, 632. 18
30	11. 890942		
30	0. 000139	0. 000139	215, 449. 40
35	29. 947467		
35	0. 000123	0. 000123	296, 446. 05
40	36. 462865		
40	0. 000115	0. 000115	107, 258. 21
45	12. 334695		
45	0. 000112	0. 000112	252, 008. 41
50	28. 224942		
50	0. 000116	0. 000116	671, 953. 48
55	77. 946603		
55	0. 000129	0. 000129	400, 870. 94
60	51. 712351		
60	0. 000148	0. 000148	683, 322. 24
65	101. 131692		
65	0. 000181	0. 000181	922, 338. 38
70	166. 943247		
70	0. 000217	0. 000217	852, 054. 04
75	184. 895726		
75	0. 000276	0. 000276	0. 00
	0. 000000		
Total	100. 00	4, 526, 686. 00	
	717. 983069		

Pollutant Name : BENZENE

VMT-Speed	speed(mph)	Emission Factor(grams/mile)	Horizon Year_Al t2_corridor.ec	VMT by Speed
		Distribution (%)	Emissions by Speed	
	5	0. 05	0. 003521 7. 300054	2, 073. 29
	10	0. 37	0. 002238 37. 970861	16, 966. 43
	15	0. 33	0. 001463 21. 788658	14, 893. 14
	20	0. 43	0. 001058 20. 546172	19, 419. 82
	25	1. 58	0. 000856 61. 317144	71, 632. 18
	30	4. 76	0. 000719 154. 908119	215, 449. 40
	35	6. 55	0. 000633 187. 650352	296, 446. 05
	40	2. 37	0. 000586 62. 853313	107, 258. 21
	45	5. 57	0. 000564 142. 132742	252, 008. 41
	50	14. 84	0. 000576 387. 045202	671, 953. 48
	55	8. 86	0. 000627 251. 346077	400, 870. 94
	60	15. 10	0. 000707 483. 108824	683, 322. 24
	65	20. 38	0. 000846 780. 298271	922, 338. 38
	70	18. 82	0. 001001 852. 906092	852, 054. 04
	75	0. 00	0. 001254 0. 000000	0. 00
-----	Total	100. 00	3, 451. 171882	4, 526, 686. 00

Pollutant Name : ACROLEIN

VMT-Speed	speed(mph)	Emission Factor(grams/mile)	VMT by Speed
		Distribution (%)	
	5	0. 05	0. 000124 0. 257088
	10	0. 37	0. 000083 1. 408213
	15	0. 33	0. 000058 0. 863802
	20	0. 43	0. 000044 0. 854472
	25	1. 58	0. 000035 2. 507126
	30	4. 76	0. 000029 6. 248033
	35	6. 55	0. 000026 7. 707597
	40	2. 37	0. 000024 2. 574197
	45	5. 57	0. 000024 6. 048202
	50	14. 84	0. 000025 16. 798837

		Hori zon Year_Al t2_corri dor. ec	
55	8. 86	0. 000028 11. 224386	400, 870. 94
60	15. 10	0. 000032 21. 866312	683, 322. 24
65	20. 38	0. 000040 36. 893535	922, 338. 38
70	18. 82	0. 000048 40. 898594	852, 054. 04
75	0. 00	0. 000061 0. 000000	0. 00
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Total	100. 00	156. 150394	4, 526, 686. 00

Pollutant Name : ACETALDEHYDE

speed(mph)	VMT-Speed	Emission Factor(grams/mile)	Emissions by Speed	VMT by Speed
5	0. 05	0. 004771 9. 891667		2, 073. 29
10	0. 37	0. 002785 47. 251496		16, 966. 43
15	0. 33	0. 001537 22. 890750		14, 893. 14
20	0. 43	0. 001017 19. 749959		19, 419. 82
25	1. 58	0. 000869 62. 248363		71, 632. 18
30	4. 76	0. 000751 161. 802499		215, 449. 40
35	6. 55	0. 000658 195. 061504		296, 446. 05
40	2. 37	0. 000587 62. 960572		107, 258. 21
45	5. 57	0. 000536 135. 076507		252, 008. 41
50	14. 84	0. 000501 336. 648691		671, 953. 48
55	8. 86	0. 000487 195. 224146		400, 870. 94
60	15. 10	0. 000490 334. 827898		683, 322. 24
65	20. 38	0. 000516 475. 926605		922, 338. 38
70	18. 82	0. 000562 478. 854369		852, 054. 04
75	0. 00	0. 000642 0. 000000		0. 00
<hr/>				
Total	100. 00	2, 538. 415025	4, 526, 686. 00	

Idling Emissions (grams) (Currently NOT Available)

Horizon Year_Al t2_corridor.ec

Evaporative Running Loss Emissions (grams)

Pollutant Name : TOG_Ios

Emissions	Emission Factor(grams/min)	total running time(hrs)
91, 139. 028238	0. 017000	89, 351. 99

Pollutant Name : FORMALDEHYDE

Emissions	Emission Factor(grams/min)	total running time(hrs)
0. 000000	0. 000000	89, 351. 99

Pollutant Name : BUTADIENE

Emissions	Emission Factor(grams/min)	total running time(hrs)
5. 361119	0. 000001	89, 351. 99

Pollutant Name : BENZENE

Emissions	Emission Factor(grams/min)	total running time(hrs)
895. 306924	0. 000167	89, 351. 99

Pollutant Name : ACROLEIN

Emissions	Emission Factor(grams/min)	total running time(hrs)
0. 000000	0. 000000	89, 351. 99

Pollutant Name : ACETALDEHYDE

Emissions	Emission Factor(grams/min)	total running time(hrs)
0. 000000	0. 000000	89, 351. 99

		Hori zon Year_Al t2_corri dor. ec
Total Emissions	Total Emissions	
Pollutant Name	Total Emissions (grams)	Total Emissions (Kilograms)
Total Emissions (US Tons)		
TOG	249,798.412460	249.798412
0.275355616		
S02	20,137.706100	20.137706
0.022198021		
Diesel_PM	18,330.241112	18.330241
0.020205632		
PM2.5	80,025.866658	80.025867
0.088213418		
PM10	86,815.446040	86.815446
0.095697648		
NOX	657,549.789382	657.549789
0.724824570		
FORMALDEHYDE	6,173.079822	6.173080
0.006804656		
C02	2,097,148,507.459920	2,097,148.507460
2,311.710520461		
CO	2,999,081.064892	2,999.081065
3.305920980		
BUTADIENE	723.344189	0.723344
0.000797350		
BENZENE	4,346.478806	4.346479
0.004791173		
ACROLEIN	156.150394	0.156150
0.000172126		
ACETALDEHYDE	2,538.415025	2.538415
0.002798124		

END-----

Horizon Year_At2_surrounding.ec

Title :	Horizon Year												
Version :	CT-EMFAC 2.6												
Run Date :	11 October 2012 02:56 PM												
Scen Year :	2040												
Season :	Annual												
Temperature :	68F												
Relative Humidity :	59%												
Area :	Orange County												
Peak User Input :													
Number of Hours	Total VMT	Volume (vph)											Road Length(mi)
	1402451												
55 60 65 70 (mph)	>75	VMT	5	10	15	20	by	Speed(mph)	35	40	45	50	
.7 3.6 5.7 %			3.8	10.5	9.2	24.4		31.7	10.1	.3			
Offpeak User Input:													
Number of Hours	Total VMT	Volume (vph)											Road Length(mi)
	911300												
55 60 65 70 (mph)	>75	VMT	5	10	15	20	by	Speed(mph)	35	40	45	50	
7.3 %			9	53.3	29.9						.5		

Running Exhaust Emissions (grams)

Pollutant Name : TOG_exh

speed(mph)	Emission Factor(grams/mile)	VMT by Speed
VMT-Speed	Distribution (%)	Emissions by Speed
5	0. 169000 0. 000000	0. 00
10	0. 107000 0. 000000	0. 00
15	0. 070000 0. 000000	0. 00
20	0. 050000 2, 664. 656900	53, 293. 14
25	0. 040000 5, 890. 294200	147, 257. 36
30	0. 034000 4, 386. 866728	129, 025. 49
35	0. 030000 12, 726. 451320	424, 215. 04
40	0. 027000 25, 118. 096409	930, 299. 87
45	0. 026000 10, 767. 282526	414, 126. 25
50	0. 027000 8, 763. 85	

	Hori zon	Year_Al t2_surroundi ng.	ec
55	0. 38	236. 624031	
60	0. 00	0. 029000	0. 00
65	0. 42	0. 000000	
70	2. 18	0. 032000	9, 817. 16
75	6. 33	314. 149024	
		0. 039000	50, 488. 24
		1, 969. 041204	
		0. 045000	146, 464. 61
		6, 590. 907315	
		0. 056000	0. 00
		0. 000000	
Total	100. 00	70, 664. 369657	2, 313, 751. 00

Po l lutant Name : S02

speed(mph)	Emi ssi on Factor(grams/mile)	VMT by Speed	
VMT-Speed	Di stri bution (%)	Emi ssions by Speed	
5	0. 00	0. 012000	0. 00
10	0. 00	0. 009000	0. 00
15	0. 00	0. 007000	0. 00
20	2. 30	0. 006000	53, 293. 14
25	6. 36	319. 758828	
30	5. 58	0. 005000	147, 257. 36
35	18. 33	736. 286775	
40	40. 21	0. 004000	129, 025. 49
45	17. 90	516. 101968	
50	0. 38	0. 004000	424, 215. 04
55	0. 00	1, 696. 860176	
60	0. 42	0. 004000	930, 299. 87
65	2. 18	3, 721. 199468	
70	6. 33	0. 004000	414, 126. 25
75	0. 00	1, 656. 505004	
		0. 004000	8, 763. 85
		35. 055412	
		0. 004000	0. 00
		0. 000000	
		0. 004000	9, 817. 16
		39. 268628	
		0. 005000	50, 488. 24
		252. 441180	
		0. 005000	146, 464. 61
		732. 323035	
		0. 005000	0. 00
Total	100. 00	9, 705. 800474	2, 313, 751. 00

Po l lutant Name : Diesel_PM

speed(mph)	Emi ssi on Factor(grams/mile)	VMT by Speed	
VMT-Speed	Di stri bution (%)	Emi ssions by Speed	
5	0. 00	0. 008052	0. 00

		Horizon	Year_Al t2_surrounding_ec	
10	0.00	0.006512	0.000000	0.00
15	0.00	0.005368	0.000000	0.00
20	2.30	0.004532	241.524501	53,293.14
25	6.36	0.003960	583.139126	147,257.36
30	5.58	0.003608	465.523975	129,025.49
35	18.33	0.003388	1,437.240569	424,215.04
40	40.21	0.003300	3,069.989561	930,299.87
45	17.90	0.003344	1,384.838183	414,126.25
50	0.38	0.003476	30.463153	8,763.85
55	0.00	0.003696	0.000000	0.00
60	0.42	0.004004	39.307897	9,817.16
65	2.18	0.004400	222.148238	50,488.24
70	6.33	0.004884	715.333141	146,464.61
75	0.00	0.005456	0.000000	0.00
<hr/>				
Total	100.00		8,189.508345	2,313,751.00

Pollutant Name : PM2.5

VMT-Speed	speed(mph)	Emission Factor(grams/mile)	Emissions by Speed	VMT by Speed
5	0.00	0.091000	0.000000	0.00
10	0.00	0.060000	0.000000	0.00
15	0.00	0.042000	0.000000	0.00
20	2.30	0.031000	1,652.087278	53,293.14
25	6.36	0.024000	3,534.176520	147,257.36
30	5.58	0.019000	2,451.484348	129,025.49
35	18.33	0.017000	7,211.655748	424,215.04
40	40.21	0.015000	13,954.498005	930,299.87
45	17.90	0.014000	5,797.767514	414,126.25
50	0.38	0.014000	122.693942	8,763.85
55	0.00	0.015000	0.000000	0.00
60	0.42	0.017000	166.891669	9,817.16
65	0.00	0.019000		50,488.24

		Hori zon Year_Al t2_surroundi ng. ec	
70	2. 18	959. 276484	
	6. 33	0. 020000	146, 464. 61
75	0. 00	2, 929. 292140	0. 00
		0. 020000	
		0. 000000	
Total	100. 00	38, 779. 823648	2, 313, 751. 00

Pollutant Name : PM10

speed(mph)	Emis sion Factor(grams/mile)	VMT by Speed	
VMT-Speed	Di stri buti on (%)	Emis sions by Speed	
5	0. 098000	0. 00	
	0. 000000		
10	0. 065000	0. 00	
	0. 000000		
15	0. 045000	0. 00	
	0. 000000		
20	0. 033000	53, 293. 14	
	1, 758. 673554		
25	0. 026000	147, 257. 36	
	3, 828. 691230		
30	0. 021000	129, 025. 49	
	2, 709. 535332		
35	0. 018000	424, 215. 04	
	7, 635. 870792		
40	0. 016000	930, 299. 87	
	14, 884. 797872		
45	0. 016000	414, 126. 25	
	6, 626. 020016		
50	0. 016000	8, 763. 85	
	140. 221648		
55	0. 016000	0. 00	
	0. 000000		
60	0. 018000	9, 817. 16	
	176. 708826		
65	0. 021000	50, 488. 24	
	1, 060. 252956		
70	0. 021000	146, 464. 61	
	3, 075. 756747		
75	0. 022000	0. 00	
	0. 000000		
Total	100. 00	41, 896. 528973	2, 313, 751. 00

Pollutant Name : NOX

speed(mph)	Emis sion Factor(grams/mile)	VMT by Speed
VMT-Speed	Di stri buti on (%)	Emis sions by Speed
5	0. 264000	0. 00
	0. 000000	
10	0. 213000	0. 00
	0. 000000	
15	0. 176000	0. 00
	0. 000000	
20	0. 152000	53, 293. 14
	8, 100. 556976	

	Horizon	Year_Al t2_surrounding_ec	
25	0. 139000	147, 257. 36	
	20, 468. 772345		
30	0. 130000	129, 025. 49	
	16, 773. 313960		
35	0. 124000	424, 215. 04	
	52, 602. 665456		
40	0. 120000	930, 299. 87	
	111, 635. 984040		
45	0. 120000	414, 126. 25	
	49, 695. 150120		
50	0. 123000	8, 763. 85	
	1, 077. 953919		
55	0. 129000	0. 00	
	0. 000000		
60	0. 140000	9, 817. 16	
	1, 374. 401980		
65	0. 158000	50, 488. 24	
	7, 977. 141288		
70	0. 181000	146, 464. 61	
	26, 510. 093867		
75	0. 217000	0. 00	
	0. 000000		
<hr/>			
Total	100. 00	296, 216. 033951	2, 313, 751. 00

Pollutant Name : FORMALDEHYDE

VMT-Speed	speed(mph)	Emission Factor(grams/mile)	VMT by Speed
VMT-Speed	Distribution (%)	Emissions by Speed	
5	0. 00	0. 010467 0. 000000	0. 00
10	0. 00	0. 006184 0. 000000	0. 00
15	0. 00	0. 003505 0. 000000	0. 00
20	2. 30	0. 002355 125. 505340	53, 293. 14
25	6. 36	0. 001992 293. 336651	147, 257. 36
30	5. 58	0. 001712 220. 891642	129, 025. 49
35	18. 33	0. 001500 636. 322566	424, 215. 04
40	40. 21	0. 001347 1, 253. 113921	930, 299. 87
45	17. 90	0. 001240 513. 516551	414, 126. 25
50	0. 38	0. 001179 10. 332583	8, 763. 85
55	0. 00	0. 001171 0. 000000	0. 00
60	0. 42	0. 001207 11. 849308	9, 817. 16
65	2. 18	0. 001311 66. 190077	50, 488. 24
70	6. 33	0. 001455 213. 106003	146, 464. 61
75	0. 00	0. 001700 0. 000000	0. 00
<hr/>			

Total	Horizon Year_Al t2_surrounding_ec	2, 313, 751. 00
100. 00	3, 344. 164643	

Pollutant Name : CO2

VMT-Speed	Emission Factor(grams/mile)	VMT by Speed
5 0. 00	1, 232. 163000 0. 000000	0. 00
10 0. 00	935. 946000 0. 000000	0. 00
15 0. 00	738. 149000 0. 000000	0. 00
20 2. 30	604. 949000 32, 239, 630. 539962	53, 293. 14
25 6. 36	517. 903000 76, 265, 025. 926565	147, 257. 36
30 5. 58	459. 353000 59, 268, 246. 826676	129, 025. 49
35 18. 33	421. 611000 178, 853, 728. 915884	424, 215. 04
40 40. 21	400. 126000 372, 237, 164. 583242	930, 299. 87
45 17. 90	392. 485000 162, 538, 341. 623735	414, 126. 25
50 0. 38	397. 919000 3, 487, 303. 621907	8, 763. 85
55 0. 00	417. 145000 0. 000000	0. 00
60 0. 42	452. 516000 4, 442, 420. 617012	9, 817. 16
65 2. 18	508. 510000 25, 673, 772. 888360	50, 488. 24
70 6. 33	516. 703000 75, 678, 701. 830721	146, 464. 61
75 0. 00	529. 630000 0. 000000	0. 00
<hr/> Total	990, 684, 337. 374064	2, 313, 751. 00
100. 00		

Pollutant Name : CO

VMT-Speed	Emission Factor(grams/mile)	VMT by Speed
5 0. 00	1. 359000 0. 000000	0. 00
10 0. 00	1. 170000 0. 000000	0. 00
15 0. 00	1. 028000 0. 000000	0. 00
20 2. 30	0. 922000 49, 136. 273236	53, 293. 14
25 6. 36	0. 842000 123, 990. 692910	147, 257. 36
30 5. 58	0. 776000 100, 123. 781792	129, 025. 49
35 18. 33	0. 721000 305, 859. 046724	424, 215. 04

	Horizon	Year_Al t2_surrounding_ec	
40	0. 676000	930, 299. 87	
40. 21	628, 882. 710092		
45	0. 641000	414, 126. 25	
17. 90	265, 454. 926891		
50	0. 616000	8, 763. 85	
0. 38	5, 398. 533448		
55	0. 603000	0. 00	
0. 00	0. 000000		
60	0. 606000	9, 817. 16	
0. 42	5, 949. 197142		
65	0. 633000	50, 488. 24	
2. 18	31, 959. 053388		
70	0. 721000	146, 464. 61	
6. 33	105, 600. 981647		
75	0. 875000	0. 00	
0. 00	0. 000000		
Total	100. 00	1, 622, 355. 197270	2, 313, 751. 00

Pollutant Name : BUTADIENE

speed(mph) VMT-Speed	Emission Factor(grams/mile) Distribution (%)	Emissions by Speed	VMT by Speed
5	0. 00	0. 000633 0. 000000	0. 00
10	0. 00	0. 000412 0. 000000	0. 00
15	0. 00	0. 000280 0. 000000	0. 00
20	2. 30	0. 000207 11. 031680	53, 293. 14
25	6. 36	0. 000166 24. 444721	147, 257. 36
30	5. 58	0. 000139 17. 934543	129, 025. 49
35	18. 33	0. 000123 52. 178450	424, 215. 04
40	40. 21	0. 000115 106. 984485	930, 299. 87
45	17. 90	0. 000112 46. 382140	414, 126. 25
50	0. 38	0. 000116 1. 016607	8, 763. 85
55	0. 00	0. 000129 0. 000000	0. 00
60	0. 42	0. 000148 1. 452939	9, 817. 16
65	2. 18	0. 000181 9. 138371	50, 488. 24
70	6. 33	0. 000217 31. 782820	146, 464. 61
75	0. 00	0. 000276 0. 000000	0. 00
Total	100. 00	302. 346756	2, 313, 751. 00

Pollutant Name : BENZENE

VMT-Speed	speed(mph)	Hori zon Di stri buti on (%)	Year Factor(grams/mile)	Air t2_surroundi ng. ec	VMT by Speed
			Emi ssi on	Emi ssi ons by Speed	
	5	0. 00	0. 003521	0. 000000	0. 00
	10	0. 00	0. 002238	0. 000000	0. 00
	15	0. 00	0. 001463	0. 000000	0. 00
	20	2. 30	0. 001058	56. 384140	53, 293. 14
	25	6. 36	0. 000856	126. 052296	147, 257. 36
	30	5. 58	0. 000719	92. 769329	129, 025. 49
	35	18. 33	0. 000633	268. 528123	424, 215. 04
	40	40. 21	0. 000586	545. 155722	930, 299. 87
	45	17. 90	0. 000564	233. 567206	414, 126. 25
	50	0. 38	0. 000576	5. 047979	8, 763. 85
	55	0. 00	0. 000627	0. 000000	0. 00
	60	0. 42	0. 000707	6. 940730	9, 817. 16
	65	2. 18	0. 000846	42. 713048	50, 488. 24
	70	6. 33	0. 001001	146. 611072	146, 464. 61
	75	0. 00	0. 001254	0. 000000	0. 00
-----	Total	100. 00	1, 523. 769644		2, 313, 751. 00

Po l lutant Name : ACROLEIN

VMT-Speed	speed(mph)	Hori zon Di stri buti on (%)	Year Factor(grams/mile)	VMT by Speed
			Emi ssi on	Emi ssi ons by Speed
	5	0. 00	0. 000124	0. 000000
	10	0. 00	0. 000083	0. 000000
	15	0. 00	0. 000058	0. 000000
	20	2. 30	0. 000044	2. 344898
	25	6. 36	0. 000035	5. 154007
	30	5. 58	0. 000029	3. 741739
	35	18. 33	0. 000026	11. 029591
	40	40. 21	0. 000024	22. 327197
	45	17. 90	0. 000024	9. 939030
	50	0. 38	0. 000025	0. 219096

		Horizon Year_Al t2_surrounding_ec	
55	0. 00	0. 000028 0. 000000	0. 00
60	0. 42	0. 000032 0. 314149	9, 817. 16
65	2. 18	0. 000040 2. 019529	50, 488. 24
70	6. 33	0. 000048 7. 030301	146, 464. 61
75	0. 00	0. 000061 0. 000000	0. 00
<hr/>			
Total	100. 00	64. 119539	2, 313, 751. 00

Pollutant Name : ACETALDEHYDE

speed(mph) VMT-Speed	Emission Factor(grams/mile) Emissions by Speed	VMT by Speed
5 0. 00	0. 004771 0. 000000	0. 00
10 0. 00	0. 002785 0. 000000	0. 00
15 0. 00	0. 001537 0. 000000	0. 00
20 2. 30	0. 001017 54. 199121	53, 293. 14
25 6. 36	0. 000869 127. 966641	147, 257. 36
30 5. 58	0. 000751 96. 898144	129, 025. 49
35 18. 33	0. 000658 279. 133499	424, 215. 04
40 40. 21	0. 000587 546. 086022	930, 299. 87
45 17. 90	0. 000536 221. 971671	414, 126. 25
50 0. 38	0. 000501 4. 390690	8, 763. 85
55 0. 00	0. 000487 0. 000000	0. 00
60 0. 42	0. 000490 4. 810407	9, 817. 16
65 2. 18	0. 000516 26. 051930	50, 488. 24
70 6. 33	0. 000562 82. 313109	146, 464. 61
75 0. 00	0. 000642 0. 000000	0. 00
<hr/>		
Total	100. 00	2, 313, 751. 00
		1, 443. 821235

Idling Emissions (grams) (Currently NOT Available)

Horizon Year_Al t2_surrounding_ec

Evaporative Running Loss Emissions (grams)

Pollutant Name : TOG_Los

Emissions	Emission Factor(grams/min)	total running time(hrs)
61,857.413336	0.017000	60,644.52

Pollutant Name : FORMALDEHYDE

Emissions	Emission Factor(grams/min)	total running time(hrs)
0.000000	0.000000	60,644.52

Pollutant Name : BUTADIENE

Emissions	Emission Factor(grams/min)	total running time(hrs)
3.638671	0.000001	60,644.52

Pollutant Name : BENZENE

Emissions	Emission Factor(grams/min)	total running time(hrs)
607.658119	0.000167	60,644.52

Pollutant Name : ACROLEIN

Emissions	Emission Factor(grams/min)	total running time(hrs)
0.000000	0.000000	60,644.52

Pollutant Name : ACETALDEHYDE

Emissions	Emission Factor(grams/min)	total running time(hrs)
0.000000	0.000000	60,644.52

		Hori zon Year_Al t2_surroundi ng. ec
Total Emissions	Total Emissions	
-----	-----	-----
Pollutant Name	Total Emissions (grams)	Total Emissions (Kilograms)
Total Emissions (US Tons)		
TOG	132,521.782993	132.521783
O.146080260		
S02	9,705.800474	9.705800
O.010698814		
Diesel_PM	8,189.508345	8.189508
O.009027388		
PM2.5	38,779.823648	38.779824
O.042747438		
PM10	41,896.528973	41.896529
O.046183018		
NOX	296,216.033951	296.216034
O.326522285		
FORMALDEHYDE	3,344.164643	3.344165
O.003686311		
C02	990,684,337.374064	990,684.337374
1,092.042550643		
CO	1,622,355.197270	1,622.355197
O.788340484		
BUTADIENE	305.985427	0.305985
O.000337291		
BENZENE	2,131.427763	2.131428
O.002349497		
ACROLEIN	64.119539	0.064120
O.000070680		
ACETALDEHYDE	1,443.821235	1.443821
O.001591540		

END-----

Horizon Year_At3廊道.ec

Title : Horizon Year
 Version : CT-EMFAC 2.6
 Run Date : 11 October 2012 02:58 PM
 Scen Year : 2040
 Season : Annual
 Temperature : 68F
 Relative Humidity : 59%
 Area : Orange County

Peak User Input :
 Number of Hours : Total VMT Volume (vph) Road Length(mi)
 2087345

	55	60	65	70	(mph)	>75	VMT	5	10	15	20	by Speed(mph)	35	40	45	50
	12.7	14.5	16.4	1.2	%		.2	.7	.5	.7	2.7	8.6	11.2	3	11.6	16

Offpeak User Input:
 Number of Hours : Total VMT Volume (vph) Road Length(mi)
 2459982

	55	60	65	70	(mph)	>75	VMT	5	10	15	20	by Speed(mph)	35	40	45	50
	12	8.7	32.2	33.7	%		.1	.1	.2	.3	.5	4.9	.4	.3	6.6	

Running Exhaust Emissions (grams)

Pollutant Name	: TOG_exh	VMT by Speed
speed(mph)	Emission Factor(grams/mile)	VMT by Speed
VMT-Speed	Di stri bution (%)	Emissions by Speed
5	0.09	0.169000
		705.522610
10	0.38	0.107000
		1,826.639479
15	0.28	0.070000
		902.769490
20	0.43	0.050000
		976.568950
25	1.40	0.040000
		2,549.530440
30	4.22	0.034000
		6,521.593720
35	7.79	0.030000
		10,629.652740
40	1.59	0.027000
		1,956.427506
45	5.49	0.026000
		6,487.311116
50		0.027000

		Hori zon Year_Al t3_corri dor. ec	
10. 91		13, 401. 018324	
55		0. 029000	560, 290. 66
12. 32		16, 248. 428995	
60		0. 032000	516, 683. 46
11. 36		16, 533. 870688	
65		0. 039000	1, 134, 438. 78
24. 95		44, 243. 112576	
70		0. 045000	854, 062. 07
18. 78		38, 432. 793330	
75		0. 056000	0. 00
0. 00		0. 000000	
<hr/>			
Total	100. 00	161, 415. 239964	4, 547, 327. 00

Po l lutant Name : S02

VMT-Speed	Emis sion Factor(grams/mile)	Emis sions by Speed	VMT by Speed
5	0. 012000	4, 174. 69	
10	50. 096280		17, 071. 40
15	0. 009000		12, 896. 71
20	153. 642573		19, 531. 38
25	0. 007000		63, 738. 26
30	90. 276949		191, 811. 58
35	0. 006000		354, 321. 76
40	117. 188274		72, 460. 28
45	0. 005000		249, 511. 97
50	318. 691305		496, 334. 01
55	0. 004000		560, 290. 66
60	767. 246320		516, 683. 46
65	0. 004000		1, 134, 438. 78
70	1, 417. 287032		854, 062. 07
75	0. 004000		0. 00
0. 00	289. 841112		
<hr/>			
Total	100. 00	20, 438. 054503	4, 547, 327. 00

Po l lutant Name : Di esel _PM

VMT-Speed	Emis sion Factor(grams/mile)	Emis sions by Speed	VMT by Speed
5	0. 008052	4, 174. 69	
0. 09	33. 614604		

		Hori zon Year_Al t3_corri dor. ec	
10	0. 38	0. 006512 111. 168937	17, 071. 40
15	0. 28	0. 005368 69. 229523	12, 896. 71
20	0. 43	0. 004532 88. 516210	19, 531. 38
25	1. 40	0. 003960 252. 403514	63, 738. 26
30	4. 22	0. 003608 692. 056181	191, 811. 58
35	7. 79	0. 003388 1, 200. 442116	354, 321. 76
40	1. 59	0. 003300 239. 118917	72, 460. 28
45	5. 49	0. 003344 834. 368014	249, 511. 97
50	10. 91	0. 003476 1, 725. 257026	496, 334. 01
55	12. 32	0. 003696 2, 070. 834261	560, 290. 66
60	11. 36	0. 004004 2, 068. 800570	516, 683. 46
65	24. 95	0. 004400 4, 991. 530650	1, 134, 438. 78
70	18. 78	0. 004884 4, 171. 239169	854, 062. 07
75	0. 00	0. 005456 0. 000000	0. 00
<hr/>			
Total	100. 00	18, 548. 579691	4, 547, 327. 00

Pollutant Name : PM2. 5

VMT-Speed	speed(mph)	Emission Factor(grams/mile)	Emissions by Speed	VMT by Speed
5	0. 09	0. 091000 379. 896790	4, 174. 69	
10	0. 38	0. 060000 1, 024. 283820	17, 071. 40	
15	0. 28	0. 042000 541. 661694	12, 896. 71	
20	0. 43	0. 031000 605. 472749	19, 531. 38	
25	1. 40	0. 024000 1, 529. 718264	63, 738. 26	
30	4. 22	0. 019000 3, 644. 420020	191, 811. 58	
35	7. 79	0. 017000 6, 023. 469886	354, 321. 76	
40	1. 59	0. 015000 1, 086. 904170	72, 460. 28	
45	5. 49	0. 014000 3, 493. 167524	249, 511. 97	
50	10. 91	0. 014000 6, 948. 676168	496, 334. 01	
55	12. 32	0. 015000 8, 404. 359825	560, 290. 66	
60	11. 36	0. 017000 8, 783. 618803	516, 683. 46	
65		0. 019000	1, 134, 438. 78	

		Hori zon Year_Al t3_corri dor. ec	
24. 95		21, 554. 336896	
70		0. 020000	854, 062. 07
18. 78		17, 081. 241480	
75		0. 020000	0. 00
0. 00		0. 000000	
<hr/>			
Total	100. 00	81, 101. 228089	4, 547, 327. 00

Pollutant Name : PM10

speed(mph)	Emis sion Factor(grams/mile)	VMT by Speed	
VMT-Speed	Di stri buti on (%)	Emis sions by Speed	
5	0. 09	0. 098000 409. 119620	4, 174. 69
10	0. 38	0. 065000 1, 109. 640805	17, 071. 40
15	0. 28	0. 045000 580. 351815	12, 896. 71
20	0. 43	0. 033000 644. 535507	19, 531. 38
25	1. 40	0. 026000 1, 657. 194786	63, 738. 26
30	4. 22	0. 021000 4, 028. 043180	191, 811. 58
35	7. 79	0. 018000 6, 377. 791644	354, 321. 76
40	1. 59	0. 016000 1, 159. 364448	72, 460. 28
45	5. 49	0. 016000 3, 992. 191456	249, 511. 97
50	10. 91	0. 016000 7, 941. 344192	496, 334. 01
55	12. 32	0. 016000 8, 964. 650480	560, 290. 66
60	11. 36	0. 018000 9, 300. 302262	516, 683. 46
65	24. 95	0. 021000 23, 823. 214464	1, 134, 438. 78
70	18. 78	0. 021000 17, 935. 303554	854, 062. 07
75	0. 00	0. 022000 0. 000000	0. 00
<hr/>			
Total	100. 00	87, 923. 048213	4, 547, 327. 00

Pollutant Name : NOX

speed(mph)	Emis sion Factor(grams/mile)	VMT by Speed	
VMT-Speed	Di stri buti on (%)	Emis sions by Speed	
5	0. 09	0. 264000 1, 102. 118160	4, 174. 69
10	0. 38	0. 213000 3, 636. 207561	17, 071. 40
15	0. 28	0. 176000 2, 269. 820432	12, 896. 71
20	0. 43	0. 152000 2, 968. 769608	19, 531. 38

		Hori zon Year_Al t3_corri dor. ec	
25	1. 40	0. 139000 8, 859. 618279	63, 738. 26
30	4. 22	0. 130000 24, 935. 505400	191, 811. 58
35	7. 79	0. 124000 43, 935. 897992	354, 321. 76
40	1. 59	0. 120000 8, 695. 233360	72, 460. 28
45	5. 49	0. 120000 29, 941. 435920	249, 511. 97
50	10. 91	0. 123000 61, 049. 083476	496, 334. 01
55	12. 32	0. 129000 72, 277. 494495	560, 290. 66
60	11. 36	0. 140000 72, 335. 684260	516, 683. 46
65	24. 95	0. 158000 179, 241. 327872	1, 134, 438. 78
70	18. 78	0. 181000 154, 585. 235394	854, 062. 07
75	0. 00	0. 217000 0. 000000	0. 00
<hr/>			
Total		100. 00 665, 833. 432209	4, 547, 327. 00

Po l lutant Name : FORMALDEHYDE

VMT-Speed	speed(mph)	Emissi on Factor(grams/mi le)	VMT by Speed
	VMT-Speed	Di stri buti on (%)	Emissi ons by Speed
5	0. 09	0. 010467 43. 696480	4, 174. 69
10	0. 38	0. 006184 105. 569519	17, 071. 40
15	0. 28	0. 003505 45. 202958	12, 896. 71
20	0. 43	0. 002355 45. 996398	19, 531. 38
25	1. 40	0. 001992 126. 966616	63, 738. 26
30	4. 22	0. 001712 328. 381425	191, 811. 58
35	7. 79	0. 001500 531. 482637	354, 321. 76
40	1. 59	0. 001347 97. 603994	72, 460. 28
45	5. 49	0. 001240 309. 394838	249, 511. 97
50	10. 91	0. 001179 585. 177800	496, 334. 01
55	12. 32	0. 001171 656. 100357	560, 290. 66
60	11. 36	0. 001207 623. 636935	516, 683. 46
65	24. 95	0. 001311 1, 487. 249246	1, 134, 438. 78
70	18. 78	0. 001455 1, 242. 660318	854, 062. 07
75	0. 00	0. 001700 0. 000000	0. 00
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Total	Hori zon Year_Al t3_corri dor. ec	4, 547, 327. 00
100. 00	6, 229. 119521	

Pollutant Name : CO2

VMT-Speed	Emis sion Di stri buti on (%)	Factor(grams/mile)	Emis sions by Speed	VMT by Speed
5	0. 09	1, 232. 163000		4, 174. 69
10	0. 38	5, 143, 898. 554470		17, 071. 40
15	0. 28	935. 946000		12, 896. 71
20	0. 43	15, 977, 905. 736562		19, 531. 38
25	1. 40	738. 149000		63, 738. 26
30	4. 22	9, 519, 691. 375343		191, 811. 58
35	7. 79	604. 949000		354, 321. 76
40	1. 59	11, 815, 488. 194671		
45	5. 49	517. 903000		249, 511. 97
50	10. 91	33, 010, 236. 586683		496, 334. 01
55	12. 32	459. 353000		560, 290. 66
60	11. 36	88, 109, 224. 707740		516, 683. 46
65	24. 95	421. 611000		1, 134, 438. 78
70	18. 78	149, 385, 950. 712138		854, 062. 07
75	0. 00	400. 126000		0. 00
		28, 993, 241. 195028		
		392. 485000		
		97, 929, 703. 975510		
		397. 919000		
		197, 500, 733. 721028		
		417. 145000		
		233, 722, 445. 279975		
		452. 516000		
		233, 807, 532. 132844		
		508. 510000		
		576, 873, 466. 051840		
		516. 703000		
		441, 296, 435. 822022		
		529. 630000		
		0. 000000		
		0. 000000		
Total	100. 00	2, 123, 085, 954. 045850		4, 547, 327. 00

Pollutant Name : CO

VMT-Speed	Emis sion Di stri buti on (%)	Factor(grams/mile)	Emis sions by Speed	VMT by Speed
5	0. 09	1. 359000		4, 174. 69
10	0. 38	5, 673. 403710		17, 071. 40
15	0. 28	1. 170000		12, 896. 71
20	0. 43	19, 973. 534490		19, 531. 38
25	1. 40	1. 028000		63, 738. 26
30	4. 22	13, 257. 814796		191, 811. 58
35	7. 79	0. 922000		354, 321. 76
		18, 007. 931438		
		0. 842000		
		53, 667. 615762		
		0. 776000		
		148, 845. 786080		
		0. 721000		
		255, 465. 987518		

	Hori zon Year_Alt3_corri dor.ec	
40	0. 676000	72, 460. 28
	48, 983. 147928	
45	0. 641000	249, 511. 97
	159, 937. 170206	
50	0. 616000	496, 334. 01
	305, 741. 751392	
55	0. 603000	560, 290. 66
	337, 855. 264965	
60	0. 606000	516, 683. 46
	313, 110. 176154	
65	0. 633000	1, 134, 438. 78
	718, 099. 750272	
70	0. 721000	854, 062. 07
	615, 778. 755354	
75	0. 875000	0. 00
	0. 000000	
<hr/> Total	100. 00	4, 547, 327. 00
	3, 014, 398. 090065	

Pollutant Name : BUTADIENE

speed(mph) VMT-Speed	Emissi on Factor(grams/mile) Di stri bution (%)	Emissi ons by Speed	VMT by Speed
5	0. 000633	0. 000633	4, 174. 69
	2. 642579		
10	0. 000412	0. 000412	17, 071. 40
	7. 033416		
15	0. 000280	0. 000280	12, 896. 71
	3. 611078		
20	0. 000207	0. 000207	19, 531. 38
	4. 042995		
25	0. 000166	0. 000166	63, 738. 26
	10. 580551		
30	0. 000139	0. 000139	191, 811. 58
	26. 661810		
35	0. 000123	0. 000123	354, 321. 76
	43. 581576		
40	0. 000115	0. 000115	72, 460. 28
	8. 332932		
45	0. 000112	0. 000112	249, 511. 97
	27. 945340		
50	0. 000116	0. 000116	496, 334. 01
	57. 574745		
55	0. 000129	0. 000129	560, 290. 66
	72. 277494		
60	0. 000148	0. 000148	516, 683. 46
	76. 469152		
65	0. 000181	0. 000181	1, 134, 438. 78
	205. 333420		
70	0. 000217	0. 000217	854, 062. 07
	185. 331470		
75	0. 000276	0. 000276	0. 00
	0. 000000		
<hr/> Total	100. 00	4, 547, 327. 00	
	731. 418559		

Pollutant Name : BENZENE

VMT-Speed	speed(mph)	Emission Factor(grams/mile)	Hori zon Year_Al t3_corri dor. ec	VMT by Speed
			Emissions by Speed	
	5	0. 09	0. 003521 14. 699083	4, 174. 69
	10	0. 38	0. 002238 38. 205786	17, 071. 40
	15	0. 28	0. 001463 18. 867882	12, 896. 71
	20	0. 43	0. 001058 20. 664199	19, 531. 38
	25	1. 40	0. 000856 54. 559951	63, 738. 26
	30	4. 22	0. 000719 137. 912526	191, 811. 58
	35	7. 79	0. 000633 224. 285673	354, 321. 76
	40	1. 59	0. 000586 42. 461723	72, 460. 28
	45	5. 49	0. 000564 140. 724749	249, 511. 97
	50	10. 91	0. 000576 285. 888391	496, 334. 01
	55	12. 32	0. 000627 351. 302241	560, 290. 66
	60	11. 36	0. 000707 365. 295206	516, 683. 46
	65	24. 95	0. 000846 959. 735211	1, 134, 438. 78
	70	18. 78	0. 001001 854. 916136	854, 062. 07
	75	0. 00	0. 001254 0. 000000	0. 00
-----	Total	100. 00	3, 509. 518758	4, 547, 327. 00

Pollutant Name : ACROLEIN

VMT-Speed	speed(mph)	Emission Factor(grams/mile)	Hori zon Year_Al t3_corri dor. ec	VMT by Speed
			Emissions by Speed	
	5	0. 09	0. 000124 0. 517662	4, 174. 69
	10	0. 38	0. 000083 1. 416926	17, 071. 40
	15	0. 28	0. 000058 0. 748009	12, 896. 71
	20	0. 43	0. 000044 0. 859381	19, 531. 38
	25	1. 40	0. 000035 2. 230839	63, 738. 26
	30	4. 22	0. 000029 5. 562536	191, 811. 58
	35	7. 79	0. 000026 9. 212366	354, 321. 76
	40	1. 59	0. 000024 1. 739047	72, 460. 28
	45	5. 49	0. 000024 5. 988287	249, 511. 97
	50	10. 91	0. 000025 12. 408350	496, 334. 01

		Hori zon Year_Al t3_corri dor. ec	
55	12. 32	0. 000028 15. 688138	560, 290. 66
60	11. 36	0. 000032 16. 533871	516, 683. 46
65	24. 95	0. 000040 45. 377551	1, 134, 438. 78
70	18. 78	0. 000048 40. 994980	854, 062. 07
75	0. 00	0. 000061 0. 000000	0. 00
<hr/>			
Total	100. 00	159. 277942	4, 547, 327. 00

Pollutant Name : ACETALDEHYDE

speed(mph) VMT-Speed	Emissi on Factor(grams/mile) Di stri bution (%)	Emissi ons by Speed	VMT by Speed
5	0. 09	0. 004771 19. 917446	4, 174. 69
10	0. 38	0. 002785 47. 543841	17, 071. 40
15	0. 28	0. 001537 19. 822239	12, 896. 71
20	0. 43	0. 001017 19. 863412	19, 531. 38
25	1. 40	0. 000869 55. 388549	63, 738. 26
30	4. 22	0. 000751 144. 050497	191, 811. 58
35	7. 79	0. 000658 233. 143717	354, 321. 76
40	1. 59	0. 000587 42. 534183	72, 460. 28
45	5. 49	0. 000536 133. 738414	249, 511. 97
50	10. 91	0. 000501 248. 663340	496, 334. 01
55	12. 32	0. 000487 272. 861549	560, 290. 66
60	11. 36	0. 000490 253. 174895	516, 683. 46
65	24. 95	0. 000516 585. 370413	1, 134, 438. 78
70	18. 78	0. 000562 479. 982886	854, 062. 07
75	0. 00	0. 000642 0. 000000	0. 00
<hr/>			
Total	100. 00	2, 556. 055379	4, 547, 327. 00

Idling Emissions (grams) (Currently NOT Available)

Horizon Year_Al t3_corridor.ec

Evaporative Running Loss Emissions (grams)

Pollutant Name : TOG_Ios

Emissions	Emission Factor(grams/min)	total running time(hrs)
90,963.944941	0.017000	89,180.34

Pollutant Name : FORMALDEHYDE

Emissions	Emission Factor(grams/min)	total running time(hrs)
0.000000	0.000000	89,180.34

Pollutant Name : BUTADIENE

Emissions	Emission Factor(grams/min)	total running time(hrs)
5.350820	0.000001	89,180.34

Pollutant Name : BENZENE

Emissions	Emission Factor(grams/min)	total running time(hrs)
893.586989	0.000167	89,180.34

Pollutant Name : ACROLEIN

Emissions	Emission Factor(grams/min)	total running time(hrs)
0.000000	0.000000	89,180.34

Pollutant Name : ACETALDEHYDE

Emissions	Emission Factor(grams/min)	total running time(hrs)
0.000000	0.000000	89,180.34

		Hori zon Year_Al t3_corri dor. ec
Total Emissions		
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Pollutant Name	Total Emissions (grams)	Total Emissions (Kilograms)
Total Emissions (US Tons)		
TOG	252,379.184905	252.379185
0.278200430		
S02	20,438.054503	20.438055
0.022529099		
Diesel_PM	18,548.579691	18.548580
0.020446309		
PM2.5	81,101.228089	81.101228
0.089398801		
PM10	87,923.048213	87.923048
0.096918571		
NOX	665,833.432209	665.833432
0.733955724		
FORMALDEHYDE	6,229.119521	6.229120
0.006866429		
C02	2,123,085.954.045850	2,123,085.954046
2,340.301661209		
C0	3,014,398.090065	3,014.398090
3.322805110		
BUTADIENE	736.769379	0.736769
0.000812149		
BENZENE	4,403.105746	4.403106
0.004853593		
ACROLEIN	159.277942	0.159278
0.000175574		
ACETALDEHYDE	2,556.055379	2.556055
0.002817569		

END-----

Horizon Year_Al t3_surrounding_ec

Title :	Horizon Year												
Version :	CT-EMFAC 2.6												
Run Date :	11 October 2012 03:00 PM												
Scen Year :	2040												
Season :	Annual												
Temperature :	68F												
Relative Humidity :	59%												
Area :	Orange County												
Peak User Input :													
Number of Hours	Total VMT	Volume (vph)											Road Length(mi)
	1396310												
55 60 65 70 (mph)	>75	VMT	5	10	15	20	by	Speed(mph)	35	40	45	50	
.8 2.5 6.8 %			.1	2.9	11	9	24.4	31.3	10.9	.3			
Offpeak User Input:													
Number of Hours	Total VMT	Volume (vph)											Road Length(mi)
	908352												
55 60 65 70 (mph)	>75	VMT	5	10	15	20	by	Speed(mph)	35	40	45	50	
7.2 %								9.2	53	30.1	.5		

Running Exhaust Emissions (grams)

Pollutant Name : TOG_exh

speed(mph)	Emission Factor(grams/mile)	VMT by Speed
VMT-Speed	Distribution (%)	Emissions by Speed
5	0. 169000 0. 000000	0. 00
10	0. 107000 0. 000000	0. 00
15	0. 070000 97. 741700	1, 396. 31
20	0. 050000 2, 024. 649500	40, 492. 99
25	0. 040000 6, 143. 764000	153, 594. 10
30	0. 034000 4, 272. 708600	125, 667. 90
35	0. 030000 12, 728. 040720	424, 268. 02
40	0. 027000 24, 798. 732930	918, 471. 59
45	0. 026000 11, 065. 905292	425, 611. 74
50	0. 027000	8, 730. 69

	Hori zon	Year_Alt3_surrounding_ec	
55	0. 38	235. 728630	
60	0. 00	0. 029000	0. 00
65	0. 48	0. 000000	
70	1. 51	0. 032000	11, 170. 48
75	6. 96	357. 455360	
	0. 00	0. 039000	34, 907. 75
		1, 361. 402250	
		0. 045000	160, 350. 42
		7, 215. 769080	
		0. 056000	0. 00
		0. 000000	
Total	100. 00	70, 301. 898062	2, 304, 662. 00

Pollutant Name : SO2

speed(mph)	VMT-Speed	Emission Factor(grams/mile)	VMT by Speed
	Distribution (%)	Emissions by Speed	
5	0. 00	0. 012000	0. 00
10	0. 00	0. 009000	0. 00
15	0. 06	0. 007000	1, 396. 31
20	1. 76	9. 774170	
25	6. 66	0. 006000	40, 492. 99
30	5. 45	242. 957940	
35	18. 41	0. 005000	153, 594. 10
40	39. 85	767. 970500	
45	45	0. 004000	125, 667. 90
50	18. 47	502. 671600	
55	0. 38	0. 004000	424, 268. 02
60	0. 00	1, 697. 072096	
65	0. 48	0. 004000	918, 471. 59
70	1. 51	3, 673. 886360	
75	6. 96	0. 004000	425, 611. 74
	0. 00	1, 702. 446968	
		0. 004000	8, 730. 69
		34. 922760	
		0. 004000	0. 00
		0. 000000	
		0. 004000	11, 170. 48
		44. 681920	
		0. 005000	34, 907. 75
		174. 538750	
		0. 005000	160, 350. 42
		801. 752120	
		0. 005000	0. 00
Total	100. 00	9, 652. 675184	2, 304, 662. 00

Pollutant Name : Diesel_PM

speed(mph)	VMT-Speed	Emission Factor(grams/mile)	VMT by Speed
	Distribution (%)	Emissions by Speed	
5	0. 00	0. 008052	0. 00
		0. 000000	

		Horizon Year_Al t3_surrounding_ec	
10	0. 00	0. 006512 0. 000000	0. 00
15	0. 06	0. 005368 7. 495392	1, 396. 31
20	1. 76	0. 004532 183. 514231	40, 492. 99
25	6. 66	0. 003960 608. 232636	153, 594. 10
30	5. 45	0. 003608 453. 409783	125, 667. 90
35	18. 41	0. 003388 1, 437. 420065	424, 268. 02
40	39. 85	0. 003300 3, 030. 956247	918, 471. 59
45	18. 47	0. 003344 1, 423. 245665	425, 611. 74
50	0. 38	0. 003476 30. 347878	8, 730. 69
55	0. 00	0. 003696 0. 000000	0. 00
60	0. 48	0. 004004 44. 726602	11, 170. 48
65	1. 51	0. 004400 153. 594100	34, 907. 75
70	6. 96	0. 004884 783. 151471	160, 350. 42
75	0. 00	0. 005456 0. 000000	0. 00
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Total	100. 00	8, 156. 094071	2, 304, 662. 00

Pollutant Name : PM2. 5

VMT-Speed	speed(mph)	Emission Factor(grams/mile)	VMT by Speed
	VMT-Speed Distribution (%)	Emissions by Speed	
5	0. 00	0. 091000 0. 000000	0. 00
10	0. 00	0. 060000 0. 000000	0. 00
15	0. 06	0. 042000 58. 645020	1, 396. 31
20	1. 76	0. 031000 1, 255. 282690	40, 492. 99
25	6. 66	0. 024000 3, 686. 258400	153, 594. 10
30	5. 45	0. 019000 2, 387. 690100	125, 667. 90
35	18. 41	0. 017000 7, 212. 556408	424, 268. 02
40	39. 85	0. 015000 13, 777. 073850	918, 471. 59
45	18. 47	0. 014000 5, 958. 564388	425, 611. 74
50	0. 38	0. 014000 122. 229660	8, 730. 69
55	0. 00	0. 015000 0. 000000	0. 00
60	0. 48	0. 017000 189. 898160	11, 170. 48
65	0. 00	0. 019000	34, 907. 75

		Hori zon Year_Al t3_surroundi ng. ec	
70	1. 51	663. 247250	
70	6. 96	0. 020000	160, 350. 42
75	0. 00	3, 207. 008480	
		0. 020000	0. 00
		0. 000000	
Total			2, 304, 662. 00
	100. 00	38, 518. 454406	

Pollutant Name : PM10

speed(mph)	Emi ssi on Factor(grams/mile)	VMT by Speed
VMT-Speed	Di stri buti on (%)	Emi ssions by Speed
5	0. 098000	0. 00
	0. 000000	
10	0. 065000	0. 00
	0. 000000	
15	0. 045000	1, 396. 31
	62. 833950	
20	0. 033000	40, 492. 99
	1, 336. 268670	
25	0. 026000	153, 594. 10
	3, 993. 446600	
30	0. 021000	125, 667. 90
	2, 639. 025900	
35	0. 018000	424, 268. 02
	7, 636. 824432	
40	0. 016000	918, 471. 59
	14, 695. 545440	
45	0. 016000	425, 611. 74
	6, 809. 787872	
50	0. 016000	8, 730. 69
	139. 691040	
55	0. 016000	0. 00
	0. 000000	
60	0. 018000	11, 170. 48
	201. 068640	
65	0. 021000	34, 907. 75
	733. 062750	
70	0. 021000	160, 350. 42
	3, 367. 358904	
75	0. 022000	0. 00
	0. 000000	
Total		2, 304, 662. 00
	100. 00	41, 614. 914198

Pollutant Name : NOX

speed(mph)	Emi ssi on Factor(grams/mile)	VMT by Speed
VMT-Speed	Di stri buti on (%)	Emi ssions by Speed
5	0. 264000	0. 00
	0. 000000	
10	0. 213000	0. 00
	0. 000000	
15	0. 176000	1, 396. 31
	245. 750560	
20	0. 152000	40, 492. 99
	6, 154. 934480	

		Horizon	Year_Al t3_surrounding_ec	
25	6. 66	0. 139000	21, 349. 579900	153, 594. 10
30	5. 45	0. 130000	16, 336. 827000	125, 667. 90
35	18. 41	0. 124000	52, 609. 234976	424, 268. 02
40	39. 85	0. 120000	110, 216. 590800	918, 471. 59
45	18. 47	0. 120000	51, 073. 409040	425, 611. 74
50	0. 38	0. 123000	1, 073. 874870	8, 730. 69
55	0. 00	0. 129000	0. 000000	0. 00
60	0. 48	0. 140000	1, 563. 867200	11, 170. 48
65	1. 51	0. 158000	5, 515. 424500	34, 907. 75
70	6. 96	0. 181000	29, 023. 426744	160, 350. 42
75	0. 00	0. 217000	0. 000000	0. 00
<hr/>				
Total	100. 00	295, 162. 920070		2, 304, 662. 00

Pollutant Name : FORMALDEHYDE

VMT-Speed	speed(mph)	Emission Factor(grams/mile)	VMT by Speed
VMT-Speed	Distribution (%)	Emissions by Speed	
5	0. 00	0. 010467 0. 000000	0. 00
10	0. 00	0. 006184 0. 000000	0. 00
15	0. 06	0. 003505 4. 894067	1, 396. 31
20	1. 76	0. 002355 95. 360991	40, 492. 99
25	6. 66	0. 001992 305. 959447	153, 594. 10
30	5. 45	0. 001712 215. 143445	125, 667. 90
35	18. 41	0. 001500 636. 402036	424, 268. 02
40	39. 85	0. 001347 1, 237. 181232	918, 471. 59
45	18. 47	0. 001240 527. 758560	425, 611. 74
50	0. 38	0. 001179 10. 293484	8, 730. 69
55	0. 00	0. 001171 0. 000000	0. 00
60	0. 48	0. 001207 13. 482769	11, 170. 48
65	1. 51	0. 001311 45. 764060	34, 907. 75
70	6. 96	0. 001455 233. 309867	160, 350. 42
75	0. 00	0. 001700 0. 000000	0. 00
<hr/>			

Total	Hori zon Year_Al t3_surroundi ng. ec	2, 304, 662. 00
100. 00	3, 325. 549958	

Pollutant Name : CO2

VMT-Speed	Emis sion Factor(grams/mile)	VMT by Speed
VMT-Speed	Di stri buti on (%)	Emis sions by Speed
5 0. 00	1, 232. 163000 0. 000000	0. 00
10 0. 00	935. 946000 0. 000000	0. 00
15 0. 06	738. 149000 1, 030, 684. 830190	1, 396. 31
20 1. 76	604. 949000 24, 496, 193. 807510	40, 492. 99
25 6. 66	517. 903000 79, 546, 845. 172300	153, 594. 10
30 5. 45	459. 353000 57, 725, 926. 868700	125, 667. 90
35 18. 41	421. 611000 178, 876, 065. 866664	424, 268. 02
40 39. 85	400. 126000 367, 504, 363. 420340	918, 471. 59
45 18. 47	392. 485000 167, 046, 224. 558870	425, 611. 74
50 0. 38	397. 919000 3, 474, 107. 434110	8, 730. 69
55 0. 00	417. 145000 0. 000000	0. 00
60 0. 48	452. 516000 5, 054, 820. 927680	11, 170. 48
65 1. 51	508. 510000 17, 750, 939. 952500	34, 907. 75
70 6. 96	516. 703000 82, 853, 545. 132072	160, 350. 42
75 0. 00	529. 630000 0. 000000	0. 00
<hr/> Total	985, 359, 717. 970936	2, 304, 662. 00
100. 00		

Pollutant Name : CO

VMT-Speed	Emis sion Factor(grams/mile)	VMT by Speed
VMT-Speed	Di stri buti on (%)	Emis sions by Speed
5 0. 00	1. 359000 0. 000000	0. 00
10 0. 00	1. 170000 0. 000000	0. 00
15 0. 06	1. 028000 1, 435. 406680	1, 396. 31
20 1. 76	0. 922000 37, 334. 536780	40, 492. 99
25 6. 66	0. 842000 129, 326. 232200	153, 594. 10
30 5. 45	0. 776000 97, 518. 290400	125, 667. 90
35 18. 41	0. 721000 305, 897. 245304	424, 268. 02

	Hori zon	Year_Al t3_surroundi ng. ec	
40	0. 676000	918, 471. 59	
39. 85	620, 886. 794840		
45	0. 641000	425, 611. 74	
18. 47	272, 817. 126622		
50	0. 616000	8, 730. 69	
0. 38	5, 378. 105040		
55	0. 603000	0. 00	
0. 00	0. 000000		
60	0. 606000	11, 170. 48	
0. 48	6, 769. 310880		
65	0. 633000	34, 907. 75	
1. 51	22, 096. 605750		
70	0. 721000	160, 350. 42	
6. 96	115, 612. 655704		
75	0. 875000	0. 00	
0. 00	0. 000000		
<hr/>			
Total	100. 00	1, 615, 072. 310200	2, 304, 662. 00

Pollutant Name : BUTADIENE

speed(mph)	Emis sion Factor(grams/mile)	VMT by Speed
VMT-Speed Distribution (%)	Emis sions by Speed	
5	0. 000633	0. 00
0. 00	0. 000000	
10	0. 000412	0. 00
0. 00	0. 000000	
15	0. 000280	1, 396. 31
0. 06	0. 390967	
20	0. 000207	40, 492. 99
1. 76	8. 382049	
25	0. 000166	153, 594. 10
6. 66	25. 496621	
30	0. 000139	125, 667. 90
5. 45	17. 467838	
35	0. 000123	424, 268. 02
18. 41	52. 184967	
40	0. 000115	918, 471. 59
39. 85	105. 624233	
45	0. 000112	425, 611. 74
18. 47	47. 668515	
50	0. 000116	8, 730. 69
0. 38	1. 012760	
55	0. 000129	0. 00
0. 00	0. 000000	
60	0. 000148	11, 170. 48
0. 48	1. 653231	
65	0. 000181	34, 907. 75
1. 51	6. 318303	
70	0. 000217	160, 350. 42
6. 96	34. 796042	
75	0. 000276	0. 00
0. 00	0. 000000	
<hr/>		
Total	100. 00	2, 304, 662. 00
		300. 995525

Pollutant Name : BENZENE

VMT-Speed	Horizon Year	Alt3_surrounding_ec	VMT by Speed
speed(mph)	Emission Factor(grams/mile)	Emissions by Speed	
VMT-Speed	Di stri bution (%)		
5	0. 00	0. 003521 0. 000000	0. 00
10	0. 00	0. 002238 0. 000000	0. 00
15	0. 06	0. 001463 2. 042802	1, 396. 31
20	1. 76	0. 001058 42. 841583	40, 492. 99
25	6. 66	0. 000856 131. 476550	153, 594. 10
30	5. 45	0. 000719 90. 355220	125, 667. 90
35	18. 41	0. 000633 268. 561659	424, 268. 02
40	39. 85	0. 000586 538. 224352	918, 471. 59
45	18. 47	0. 000564 240. 045022	425, 611. 74
50	0. 38	0. 000576 5. 028877	8, 730. 69
55	0. 00	0. 000627 0. 000000	0. 00
60	0. 48	0. 000707 7. 897529	11, 170. 48
65	1. 51	0. 000846 29. 531957	34, 907. 75
70	6. 96	0. 001001 160. 510774	160, 350. 42
75	0. 00	0. 001254 0. 000000	0. 00
<hr/>			
Total	100. 00	1, 516. 516326	2, 304, 662. 00

Pollutant Name : ACROLEIN

VMT-Speed	Horizon Year	Alt3_surrounding_ec	VMT by Speed
speed(mph)	Emission Factor(grams/mile)	Emissions by Speed	
VMT-Speed	Di stri bution (%)		
5	0. 00	0. 000124 0. 000000	0. 00
10	0. 00	0. 000083 0. 000000	0. 00
15	0. 06	0. 000058 0. 080986	1, 396. 31
20	1. 76	0. 000044 1. 781692	40, 492. 99
25	6. 66	0. 000035 5. 375794	153, 594. 10
30	5. 45	0. 000029 3. 644369	125, 667. 90
35	18. 41	0. 000026 11. 030969	424, 268. 02
40	39. 85	0. 000024 22. 043318	918, 471. 59
45	18. 47	0. 000024 10. 214682	425, 611. 74
50	0. 38	0. 000025 0. 218267	8, 730. 69

		Horizon Year_Al t3_surrounding_ec	
55	0. 00	0. 000028 0. 000000	0. 00
60	0. 48	0. 000032 0. 357455	11, 170. 48
65	1. 51	0. 000040 1. 396310	34, 907. 75
70	6. 96	0. 000048 7. 696820	160, 350. 42
75	0. 00	0. 000061 0. 000000	0. 00
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Total	100. 00	63. 840662	2, 304, 662. 00

Pollutant Name : ACETALDEHYDE

speed(mph) VMT-Speed	Emission Factor(grams/mile) Emissions by Speed	VMT by Speed
5 0. 00	0. 004771 0. 000000	0. 00
10 0. 00	0. 002785 0. 000000	0. 00
15 0. 06	0. 001537 2. 146128	1, 396. 31
20 1. 76	0. 001017 41. 181371	40, 492. 99
25 6. 66	0. 000869 133. 473273	153, 594. 10
30 5. 45	0. 000751 94. 376593	125, 667. 90
35 18. 41	0. 000658 279. 168360	424, 268. 02
40 39. 85	0. 000587 539. 142823	918, 471. 59
45 18. 47	0. 000536 228. 127894	425, 611. 74
50 0. 38	0. 000501 4. 374076	8, 730. 69
55 0. 00	0. 000487 0. 000000	0. 00
60 0. 48	0. 000490 5. 473535	11, 170. 48
65 1. 51	0. 000516 18. 012399	34, 907. 75
70 6. 96	0. 000562 90. 116938	160, 350. 42
75 0. 00	0. 000642 0. 000000	0. 00
<hr/>		
Total	100. 00	2, 304, 662. 00
		1, 435. 593390

Idling Emissions (grams) (Currently NOT Available)

Horizon Year_Al t3_surrounding_ec

Evaporative Running Loss Emissions (grams)

Pollutant Name : TOG_Los

Emissions	Emission Factor(grams/min)	total running time(hrs)
61,384.369034	0.017000	60,180.75

Pollutant Name : FORMALDEHYDE

Emissions	Emission Factor(grams/min)	total running time(hrs)
0.000000	0.000000	60,180.75

Pollutant Name : BUTADIENE

Emissions	Emission Factor(grams/min)	total running time(hrs)
3.610845	0.000001	60,180.75

Pollutant Name : BENZENE

Emissions	Emission Factor(grams/min)	total running time(hrs)
603.011155	0.000167	60,180.75

Pollutant Name : ACROLEIN

Emissions	Emission Factor(grams/min)	total running time(hrs)
0.000000	0.000000	60,180.75

Pollutant Name : ACETALDEHYDE

Emissions	Emission Factor(grams/min)	total running time(hrs)
0.000000	0.000000	60,180.75

	Hori zon Year_Al t3_surroundi ng. ec	
Total Emissions		
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Pollutant Name	Total Emissions (grams)	Total Emissions (Kilograms)
Total Emissions (US Tons)		
TOG	131,686,267096	131,686267
O. 145159262		
S02	9,652,675184	9,652675
O. 010640253		
Diesel_PM	8,156,094071	8,156094
O. 008990555		
PM2.5	38,518,454406	38,518454
O. 042459328		
PM10	41,614,914198	41,614914
O. 045872591		
NOX	295,162,920070	295,162920
O. 325361425		
FORMALDEHYDE	3,325,549958	3,325550
O. 003665791		
C02	985,359,717,970936	985,359,717971
1,086,173162449		
CO	1,615,072,310200	1,615,072310
O. 780312475		
BUTADIENE	304,606370	0,304606
O. 000335771		
BENZENE	2,119,527480	2,119527
O. 002336379		
ACROLEIN	63,840662	0,063841
O. 000070372		
ACETALDEHYDE	1,435,593390	1,435593
O. 001582471		

END-----

Road Dust Calculations

$$E = (k * (sL/2)^{0.65} * (W/3)^{1.5}) * (1 - P/4N)$$

	PM ₁₀	PM _{2.5}	
E =			emission factor
k =	0.0022	0.00054	particle size multiplier
sL =	0.03	0.03	surface silt loading
W =	2.7	2.7	average vehicle weight (tons)
P =	40	40	Number of days per year with >0.01 inches of rain
N =	365	365	Days per period

		Daily VMT	PM ₁₀ Emission Factor	PM _{2.5} Emissions Factor	Road Dust Emissions (lbs/day)	
Scenario					PM ₁₀	PM _{2.5}
Existing	Project Corridor	3,580,844	0.00024	0.00006	867.99	213.05
	Surrounding Area	1,885,658	0.00024	0.00006	457.08	112.19
Alternative 1 (2022 No Build)	Project Corridor	3,879,771	0.00024	0.00006	940.45	230.84
	Surrounding Area	2,048,771	0.00024	0.00006	496.62	121.90
Alternative 2 (2022 Build)	Project Corridor	3,905,269	0.00024	0.00006	946.63	232.35
	Surrounding Area	2,032,495	0.00024	0.00006	492.67	120.93
Alternative 3 (2022 Build)	Project Corridor	3,912,348	0.00024	0.00006	948.35	232.78
	Surrounding Area	2,029,377	0.00024	0.00006	491.92	120.74
Alternative 1 (2045 No Build)	Project Corridor	4,452,351	0.00024	0.00006	1,079.24	264.90
	Surrounding Area	2,361,206	0.00024	0.00006	572.35	140.49
Alternative 2 (2045 Build)	Project Corridor	4,526,686	0.00024	0.00006	1,097.26	269.33
	Surrounding Area	2,313,751	0.00024	0.00006	560.85	137.66
Alternative 3 (2045 Build)	Project Corridor	4,547,327	0.00024	0.00006	1,102.26	270.56
	Surrounding Area	2,304,662	0.00024	0.00006	558.65	137.12